AMERICAN RAILROAD JOURNAL,

AND

IRON MANUFACTURER'S AND MINING GAZETTE.

ESTABLISHED 1831.

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Saturday, January 13, 1849.

☞ By an inexcusable oversight, the Journal was put to press without the correction of a part of the proof—especially the articles in relation to the South Carolina and the Panama railroads.

MISSING NUMBERS OF THE JOURNAL.

As the volume of the Railroad Journal for 1848 is *now* completed, and as it *may not long* be in *my power* to furnish *missing* numbers to its subscribers —*some* of whom have kindly accompanied me thro' a long journey of *eighteen years*—through good report and through evil report—I am *desirous* to furnish *all* who wish to *complete* their volumes, with missing numbers, if they are now on hand. *Every* subscriber, desirous to obtain missing numbers, should make out a list, and forward it *immediately*, and as far as it is in my power, it will be attended to at the end of January.

D. K. MINOR,
Editor Railroad Journal.

To Engineers and Contractors, a good suggestion.

We think the following suggestion an *excellent* one, and thank the gentleman who has felt the want of such information, for giving us the hint. We will endeavor to profit by it. He says:—

"Would it not be a good thing to publish a list of engineers and contractors, with the public works upon which they are engaged, charging so much per annum for each name? This will give the members of the profession an opportunity to know where their brothers are engaged, and their address; also where an engineer can find an old well-known contractor, should he be in want of a good man to do some important piece of work in a hurry. Such a list would be of great service to me at this very moment. Assistant engineers would do well to advertise in the same way.

There is no doubt but that great convenience to some, and profit to others, would result from the constant publication of such a list of engineers and contractors, on the different lines of railroad, and especially to those out of, but *desiring*, *employment*. We therefore offer to insert the names of engineers, contractors, draughtsmen and others in responsible positions on railroads, and in machine manufactories, on reasonble terms, especially regarding those who are subscribers to the Journal, provided the suggestion meets with general favor. Will those interested look at the matter, and let us hear from them.

Institution of Civil Engineers.

It is scarcely a *third* of a century since *civil engineering* was first known as a profession in this country. We do not wish to be understood as intimating that there were not learned men in those sciences which are requisite to constitute an accomplished engineer; but the instances were very rare, previous to the commencement of the *Erie canal*, in which those learned in the science of engineering, had the opportunity of being practically engaged in the profession. In this department of science—as in most others, and perhaps more than in any other—important advances have been made within the last thirty years; and where there were, in 1818, only here and there one who made any pretentions to the honor and skill of an engineer, there are now *hundreds* employed on the numerous works of our country—some of whom, though not as far famed, would not suffer by a comparison with Stephenson, or Brunel, or Lock, or Cubitt, or Poussin; many of whom will, in good time, elevate the reputation of their ennobling profession—yet with all their science, activity and enterprise, they have not yet even laid the *foundation* upon which to erect a superstructure for an "AMERICAN INSTITUTION OF CIVIL ENGINEERS"—Is this right? Have the leading members of the profession done their *duty* to their juniors in this matter? We think not, and therefore feel it *our* duty to call their attention once more to it—a subject to which, in years gone by, we devoted both labor and space in the Journal, as will be recollected by many of our readers, or ascertained by others who will consult the volumes of 1839, 40, and 41.

We merely allude, in this number, to the subject, and shall refer to it again, in our next, more at length; and perhaps give the outline of a plan of organization devised by us in the summer of 1846—and to develope which we took an important *preliminary* step, but were prevented, by untoward circumstances, from giving it publicity, and a trial. We may also give extracts from some of the articles heretofore published in the Journal in relation to such an institution, as we think the present an auspicious period to make another effort to establish an *American Institution of Civil Engineers*; and we shall be obliged to any member of the profession who will give us his views on the subject.

Philadelphia, Wilmington, and Baltimore Railroad.

It is a source of real pleasure to us to learn that the affairs of this important road are assuming a more prosperous position. It is one of the most important links in the *great Atlantic chain* of railroad, and ought to be one of the most flourishing; and the time will come when it *will* be so, especially when they throw a bridge—*a suspension bridge*—across the Susquehanna, at Havre de Grace, and thus avoid disturbing those who sleep in the cars, which may, must, and *will* be done in a way to remedy the obstruction to navigation—as there is, it appears to us, ample elevation on both sides for a suspension bridge. We learn, in relation to the affairs of this company, from the Philadelphia Bulletin, that—

There has been a recent movement had in relation to the affairs of the Philadelphia, Wilmington, and Baltimore railroad company, which renders some exposition of its condition due to those whose energy and practical management have brought about its present satisfactory state, when compared with what it was some three years since, when they undertook its management. At that time its prospects were far from being flattering as to any ultimate value on the capital stock, unless some decided change could be made by which its obligations could be provided for. Let us look for a moment at the obligations existing three years ago. We find $2,167,000 as a first mortgage, and $900,000 as a second mortgage, together with a floating debt of $500,000, making the aggregate of fully three and a half million of dollars. In this state of financial affairs, the then officers of the company found themselves with a road in bad order throughout, and with but slender, if any, means to procure the necessary stock and

fixtures to do the work then absolutely forcing itself upon the line. Some idea of this state of things might be formed from the fact of there being at that time but one locomotive engine weighing over ten tons! And that now, under the new arrangement, all the locomotives required for the effective service of the road are of the first class. The time of transit previously had between Philadelphia and Baltimore was 7½ hours; it is now but 5½ hours, and thus materially obviates a chance for a missing mail under the old schedule.

The result of this working efficiency has been mainly brought about by a subscription of stock equal to the amount of the second mortgage, by which that mortgage was cancelled, and a further subscription of stock, about half a million of dollars, applied to the payment of the floating debt, which previously had crippled the company and rendered it unable to procure the necessary materials, running stock, and the local fixtures of the road. After this negociation was made for the subscription to the capital stock, the executive officers commenced improving the road, and immediately relaid the whole track, between Philadelphia and Wilmington, with a heavy "T rail," and also, entirely relaid the route of the Newcastle and Frenchtown railroad. The result was mainly obtained from the earnings of the road itself, a very small portion of which was anticipated.

In addition to these most essential improvements, the company has reconstructed, on different portions of the route, all the railroad bridges and viaducts required, and has purchased the necessary locomotives, cars, and the increased amount of land necessary for depots, &c. This has all been done in a season of most extraordinary pressure for money, for business purposes, and that, too, we feel glad to state, without having cost its stockholders or creditors a single dollar in the way of any extra interest or commission for the negotiation of loans.

Additionally to this, the revenue has been equal to all the expenses of the road, and to the payment of the interest on the whole indebtedness of the company, except an amount of about $120,000, which has been provided for by arrangement made by the directors last November, by which not only has this floating debt been provided for, but the additional sum of about $200,000 is now on hand, as an efficient cash working capital on the first of January. This has been done by an additional subscription of stock—with a view to have a portion of the expenses or construction account represented by capital.—This stock was subscribed for by those now interested in the company at par, and produces the result above stated.

We cannot close this brief but highly satisfactory summary of the present condition of this important incorporation, without bearing testimony to the active practical skill of its president, Mr. Dale, and to Mr. Charles F. Fisher, of this city, to whom, we are informed, this result is mainly attributable. We can congratulate both bond and stockholders in this association, that their interests fell in such good hands. The object of making these remarks at this time, is to do justice to the efforts so successfully made to put this company's affairs upon its present prosperous footing, ere the contemplated change in the officers takes place, and that due credit should attach where it belongs."

And we will bear our testimony to the efficient and untiring efforts of another gentleman connected with this road—we refer to *Col. Trimble*, the superintendent.

Railroad receipts on the S. Carolina R. road.

The following statement, from a Charleston paper, together with the annexed extract from a letter, was received in December, while the Journal was published in Philadelphia, and it is to the merchants of that city that allusion is made by our correspondent.

South Carolina Railroad.—We have been favored with the following statement of the recipts of the South Carolina Railroad for the months of July, August, September, October and November, 1847, compared with the same months, 1848:

1847—July, August, September and October—For Freight, Passage, Mails and minor sources as previously published,		197,515 96
NOV.—Passage up	11,569 93	
Passage down	7,963 39	
	19,533 32	
Freight up	14,906 59	
Freight down	13,290 15	
	28,196 74	
(Total P. & F.)	47,730 06	
Mails	3,358 33	
Minor sources	376 42	
	3,734 75	
Total, m. & m. s.	51,464 81	
Months' total,		248,980 77
1848—July, August, September and October—For Freight, Passage, Mails and minor sources as previously published,		231,277 66
NOV.—Passage up	11,558 09	
Passage down	9,029 49	
	20,587 58	
Freight up	19,943 38	
Freight down	37,211 04	
	57,154 42	
(Total P. & F.)	77,742 00	
Mails	2,413 54	
Minor sources	531 21	
	3,944 75	
Total, m. & m. s.	81,585 75	
Months' total,		362,964 41
Difference in favor of 1848,		$113,983 64

The comparative receipts for four months, as given in this statement, show to advantage, and the writer may well say that,

"This is encouraging, and the prospect ahead, on the completion of the Western and Atlantic lake, to Chattanooga, and from thence up the Nashville and Chattanoga lakes to Nashville, is bright indeed. Both those works are being pushed forward with the utmost energy; the former is to be finished, as per contract, in Oct. '49. We shall then draw to this place from 70 to 80,000 bales cotton per annum, which formerly found its way to New Orleans, by the way of the river. And, also, an immense quantity of produce. Your merchants are, therefore, acting wisely in the building of fine steamers to run between the two ports."

It is, indeed, true wisdom in the merchants of Philadelphia to build steam packets for the trade with Charleston. They ought also to do the same with *Savannah, and New Orleans.* They will be obliged to do it, by and by, in *self preservation*—if it shall be long delayed—therefore better lead than be driven.

Panama Railroad.

The question of crossing the Isthmus between the Gulf of Mexico and the Pacific ocean, has attracted the attention of able men, for near half a century. We well recollect to have been confered with on the subject—whether a *canal* or a *railroad* would be most useful, *under all circumstances*, as long ago as the first year of the publication of the Railroad Journal, 1832; and in relation to this important work, as to that of the *Illinois canal*, from lake Michigan to the Mississippi river, we were *then*, as *now*, decidedly in favor of a *railroad*.

There *are* positions, and this may be one of them, where a *canal* would be preferable—if one could be constructed, and *used*, when constructed—as for instance at the *Sault St. Marie*, by which a connection between two great bodies of water—lake Huron and lake Superior—would be made, In that case, there is an abundant supply of water—from lake Superior, and the canal will be less than three miles long, therefore a canal will be made, an abundance of *water* can always be relied upon—whereas at the isthmus of *Panama*, the elevation to be overcome, is so great, 337 feet—and the supply of water so small on the summit, that it is very doubtful, whether a supply could be relied upon, without an enormous outlay for reservoirs, and therefore we are now, as eighteen years ago, decidedly in favor of a railroad, and especially because by a railroad, a route can be taken which will obviate in a good measure, the objections in regard to health, which must, inevitably, attend the line of a canal.

It is well however, to those who have investigated the matter, that *Chagres*, and its immediate vicinity, is famed for its unhealthy climate—yet a canal must have one of its termini at, or near, that especial depot of Malaria—whereas a railroad may terminate at some other point, where there is better anchorage, a healthy position, and ample space for business; and such appears to be the views of those who now have the matter in hand, as we are informed by one of the gentlemen who has a grant for constructing the work.

From the map before us, prepaired from a preliminary survey of a part of the route, by Messrs. Tracy & Baldwin, under the direction of J. L. Stephens, Esq., the far-famed traveller; it appears that it is proposed to commence the road, on this side, at some point in "*Navy Bay*," *south* of Chagres, and to cross the river Chagres, near *Gorgona*—and near the summit level, and to terminate it at Panama, on the Pacific; but we are led to believe, that a more feasible route may be found by crossing the river Chagres at some point not far above the mouth of the river *Trinidad*, and striking the line indicated on this mart at, or near Brujo, or near the summit level,

With the information now before us, it is difficult to speak of the line in a manner satisfactory, but we are informed that a corps of engineers consisting of four parties, under the direction of Col. G. W. Hughs, the Topographical engineers, is to leave this port, on, or about the 20th inst., for the purpose of making a thorough exploration and survey of the route; and we therefore anticipate more accurate, and useful information on this subject, at an early day, when we shall again refer to it—as we may also, in our next.

Reduced Rates on the Vicksburg Railroad.

We some time since noticed the reduction of the rates of charge on this road—they were formerly as follows. See R. R. Journal, page 490, vol. of 1848: "Vicksburg and Jackson, 46 miles—sugar, coal, iron, and manure, 40 cts. per 100 lbs.; salt, 60 cts. per sack; corn and grain, 10 cts. per bushel; dry-goods, 8 cts. per cubic foot; cotton, 87½ cts. per bale of 400 lbs.; horses and carriages, 12 cts. per mile each; passengers fare, $3, or 6-38 cts. per mile;" and the highest rates of charge, we believe, in this country—adopted probably under the belief that a less rate would not enable them to work a short road, in that location. In July last the rates were reduced *nearly one-third*, to take effect on 1st August, and we are now enabled to give a comparative statement for August and September of the years

1847 and 1848. By this statement there was, during those two months, a slight falling off in the aggregate receipts; and such a result might have been anticipated, as the influences of the change would not be so soon felt; but the *year* will, we have no doubt, show a different result. Its influences will, however, be more felt during the second than the first year.

The statement is as follows:—

Passengers.—Vicksburg and Jackson Railroad, August and September, 1847.

Rate 6.52 per mile, whole & half ticks sold at	August, 1847.		Septr., 1847.		Total Aug. & Sept. 1847.	
	Number of Tickets.	Amount.	Number.	Amount.	Number.	Amount.
Jackson.	199	503 15	231	500 50	430	1003 65
Clinton.	140	220 35	139	204	279	424 35
Boltons.	83	119 25	82	118 95	165	238 20
Edwards	72	86 15	43	49 65	115	135 80
Vicksbrg	570	1.088 70	669	1.099 20	1239	2187 90
Total..	1,064	2.017 60	1,164	1.972 30	2228	$3989 90

August and September, 1848.

Rate 4.35 per mile, whole & half ticks sold at	August, 1848.		Septr., 1848.		Total Aug. & Sept. 1848.	
	Number of Tickets.	Amount.	Number.	Amount.	Number.	Amount.
Jackson,	335	544 40	301	453 45	636	997 85
Clinton,	196	220 70	256	265 55	452	486 25
Boltons,	103	102 95	137	133 10	240	236 05
Edwards	176	137 55	147	105 80	323	243 35
Vicksbg.	751	915 55	752	1.004 80	1503	1.920 35
Total..	1561	1.921 15	1593	1.962 70	3154	3.883 85

Aug. & Septr., 1847,	2228 Tickets		$3989 90
" " 1848,	3154 "		3883 85
Increase of Number, 41.5 per cent.	926	Decrease of income	$106 05

J. ROACH, Cashier.

Vicksburg and Jackson Railroad,
10th October, 1848.

New-York and Erie Railroad.

We referred in our last number to the opening of this road to Binghamton.—That was an important day to this city, and to the sequestered region through which it passes, as well as to the beautiful valley and village in which its locomotives are for a time —a short time only we trust—arrested. In looking at the subject, during a leisure moment, we could not refrain from following it out in its various ramifications—and contemplating it in all its bearings—we could not avoid asking our "three-legged stool" how much the people along its line—those who never paid a dollar towards its construction, but asked damages for its passing through their lands—would be disposed to charge "damages" if its location were to be changed to the first proposed line through Sullivan county—or to any other line? When it has been in use one year the entire property along its line, from Port Jervis to Binghamton, will be estimated worth 50 per cent. more than it was the day before the *commissioners* decided upon its present location; and the increase upon its present value, or its present growth, will be twice as rapid as it would have been on its value before that decision. In short, the value of the road, to the region through which it passes, cannot be *justly* estimated until it shall have been some years in use, and then thrown out of use, by some convulsion, by which its working shall cease for a time.

To Binghamton, from every direction, will the people centre with produce for New-York direct.—Fifteen hours for passengers, and twenty-four to thirty hours for freight, will be common time.—Fresh butter, eggs, fruits, and meats will now reach the people of this city from a region never before represented in this market by such articles. And the seekers of pleasure in beautiful scenery, in trout brooks, in shooting, and in hunting game worth seeking, will take this line of railroad, and not be disappointed in their favorite pursuit. And when it shall be extended to the Lake, and its numerous branches, northwardly and southwardly, be completed—as they *surely will* be—then will the Erie railroad become like another Hudson river to this city; and then, also, will the *doubters*, and *croakers*, and *selfish*—who have refused to give a helping hand in its construction—begin to see and *feel* its influences; and then—as with the Erie canal—will those people claim to have been its best friends, and probably claim credit for its construction; while those who actually bore the burthen of the work, in its dark days, will be thrust aside and be forgotten.—Such is mankind, and such will men be until *some time after the completion of the New-York and Erie railroad.*

But that we may do *our* part in causing to be remembered those who have been *immediately* instrumental in completing this last and longest section of the work, we give annexed a list of the officers, directors, engineers, and principal contractors, that we may be able, on our return from California,—a few years hence,—to ascertain who were, in truth, the men who aided in so noble a work. This is the only way in which the history of the work can be written ten years hence—as the people benefited by their fellow-men are sure to forget, and *never* to forgive, those who labor most devotedly for the public good, unless in so doing they become *wealthy*—and we are sure that no man will get very wealthy who has recently been, or is now, engaged on the New-York and Erie railroad.

We are not disposed to be partial in recording the names of those only who have been connected with the last section completed; as we would, if we could get a list of them, with great pleasure give a list of all those who, in by-gone days, were prominent in aiding the work, but as it would be difficult to get a correct list of them; and, rather than to seemingly do injustice to any *one*, by omission, we omit all for the present, except those who have been so recently engaged that they are not yet forgotten.

First in order we give the directors, then the officers, engineers, and principal contractors, as follows:—

DIRECTORS—Benjamin Loder, Silas Browne, H. Sheldon, Daniel S. Miller, Henry Suydam. Jr., Wm. E. Dodge, Shepherd Knapp, Samuel Marsh, John Wood, Cornelius Smith, Thomas J. Townsend, Homer Ramsdell, (of Newburgh), William B. Skidmore, Marshall O. Roberts, Thomas W. Gale, Charles M. Leupp, Theodore Dehon.

OFFICERS—Benjamin Loder, President; Samuel Marsh, Vice-President; Thomas J. Townsend, Treasurer; Nathaniel Marsh, Secretary; H. C. Seymour, Superintendent of the road in operation.

ENGINEERS—Major T. S. Brown, Chief Engineer; Horatio Allen, Consulting Engineer; Silas Seymour, W. H. Sidell, W. H. Morell, and J. W. Adams, Superintending Engineers; J. P. Kirkwood, Engineer in charge of Starucca Viaduct; W. W. Morris, Engineer and Agent for obtaining supplies of rails, castings, etc.; J. K. Ford, T. A. Emmet, Jr., E. F. Jones, W. R. Kingsley, F. Hubbard, and F. C. Cunningham, Resident Engineers; W. S. French, I. S. Beggs, D. Hardenburg, Irving Camp, John May, George Wolcott, H. J. Barker, H. Riddle, J. R Knight, J. A. Case, F. W. Beebe, N. A. Gurney, R. N. Browne, W. L. Storke, G. H. Belden, Philip Harry, J. H. Morley, Edwin McNeil, Peter A. Dey, E. L. Wentz, Assistant Engineers.

WEST OF BINGHAMTON—L. D. Stanicliffe, Superintending Engineer; P. P. Dickinson, W. P. Innis, A. C. Archibald, Assistant Engineers.

ON NEWBURGH BRANCH—McRee Swift, Superintending Engineer.

CONTRACTORS.—Thomas King, — Malone, McEvoy & Co., Michael Burke, Martin & Freeland, Dougherty & Lauman, Story & King, Carmichael & Stranahan, Flannery & Healy; King, Fullen & King; Becker, Gros & Co.; Becker & Dutcher, Wilkes & O'Garrah, Hegarty & Demon, Calvin, Carmichael, J. & C. Collins; Thomas, Edsall, & Storrs; David H. Lockart, J. D. Wheeler, George Rowley, Uriah Gregory, Timothy Ives; Richard McGrann & Co.; P. McMahan, Case; Baker & Co., Ewers & Co., Eldredge & Jones; Barker, Denton, & Co.; Brayton & Gouder; Dimmick, Cook, and Co.; John Fowler, (builder of Cascade and other structures); William J. Marlett, Dougherty & O'Rorke, Hubley & Hamersley, George M. Lauman, Philip Dougherty; McGrann, Reilly, & Co.; Ford & Crandall, Fowler & McCallum, (bridge builders), Hazard Lewis, M. M. White, (builder of iron bridge, and agent for Rider's plan); Story & King, Carmichael & Stranahan, and Boody & Thatcher, (track layers.)

Railroad to Albany--Oliver Evans--Col. J. Stevens--J. Fitch--The first Locomotive.

Few men, if any, in this country, are more familiar with the history of our internal improvements, and the *pioneers* in the cause, than the writer of the following communication. For many years he was actively engaged in the effort to convince the capitalists, and business men of this city, of the importance of a railroad from here to Albany, but with all the energy and effort brought to bear on the subject during a *ten* years' campaign, up to 1844, capital, sufficient to construct a good road, could not be relied on; whereas now, such has been the advance of the age, and the progress of intelligence on this subject, that we are to have two lines of railroad to Albany,—one of which, is to be the model road of the country.

There are few men in the country better able than J. E. B.—looking on as he does from his quiet retirement—to correct the errors into which we may fall in our sometimes hasty allusions to men, times, and things by gone, in connection with the origin, rise, and progress of the improvements of our country; and his communication ought therefore to have had an earlier insertion, as it is designed to give credit where it is justly due—without in the least detracting from the merits of others—and least of all from Col. Stevens—in vindication of whose claims to being *the* pioneer of *Railroads*, he has often wielded his pen.

"*Give honor to whom honor is due.*"—I am led to make this remark, as I perceive a correspondent 'B.,' in the Courier & Enquirer of the 18th Nov. introduces a letter of John C. Stevens, Esq., who gives credit to his father as the projector of a railway on "*the margin of the Hudson*" and "the astounding accuracy with which he describes the first locomotive." The latter is true, the former doubtful.

The late Col. John Stevens, of Hoboken, has

honor enough in being the first to propose to Governeur Morris, and De Witt Clinton, as early as the 24th Feb. 1812, "*to make a railway from Albany to Lake Erie, instead of a canal.*" His plans and calculations were admirable. On the 11th and 16th March, 1812, Col. Stevens answers all the objections of G. Morris and Robert R. Livingston—(and curious ones they are,)—to his "Memorial to the Commissioners for exploring the route of Internal Navigation, &c."

In this remarkable production, in the advance of his age, (it is only the projectors of the river road who have caught up with, and gone a-head of him.) Col. S. takes ground, page 15:

First—"What railway would be the cheapest?"

Second—"Those railways, which, from the nature of their construction, will be free from the numerous casualties to which canals are liable?"

Third—(Mark, ye canal advocates!)—"The expense of transportation would be much less than on a canal of the best construction,"—and, he adds: "To prove this a summary calculation of cost of road—expense of transportation, and the plan of *a small engine*, of ten inches diameter, worked with steam, the elastic power of which, was 50 pounds to the circular inch,—[See A. R. Lawrences printed Report and Estimates, 1838,] would possess a power, equal to 5000 pounds on the whole area of the piston, moving at the velocity of three feet in a second." How true to the description of the present locomotive engine.

This rare and remarkable pamphlet, which I have in my possession, was "printed by T. & I. Swords, No. 160 Pearl street, (N. Y.) 1812, and is entitled,

DOCUMENTS:

TENDING TO PROVE THE SUPERIOR ADVANTAGES OF

RAILWAYS

OVER

CANAL NAVIGATION.

This work, I suspect, is the one referred to by John C. Stevens, Esq., as among his father's papers, in which he expected to find "the project of a railroad between New York and Albany, *by the River route.*" Col. S. does not touch on this subject,—he was content to contend with the Erie canal. It is true, some time after—to wit 1834—he may have given the idea to *D. K. Minor*, although I doubt it. He was the first, to the writer's knowledge, in his railroad map, of 1834 (engraved by Wm. Norris,) who located the line of the New York and Albany Railroad on the River. This was done, no doubt first done, by Mr. Minor, under the charter granted in 1832, to Nicholas Fish—[father of the present Governor,] Elisha Tibbits, Benjamin Wright, William C. Redfield, James B. Murray, D. D. Field, Charles H. Hall, and others—whose labors appear to be forgotten, and at a period too, when these gentlemen could not wake up one of the Van Winkle capitalists, to make a railroad any where, but to Yorkville,—and then, to speculate in the rise of stock, by the sight of a Tunnel!!!

As respects the first *steam carriage*, or *locomotive*, *Oliver Evans*, as early as 1788, constructed one, and proceeded with it, from Broad street, Philadelphia, to Schuylkill. At that early period he predicted its use and improvement with the speed we are now making on our railways. Col. Stevens improved on those suggestions. No doubt his plan of a "small engine," as described and published in 1812, to Congress,—(see pamphlet,) prompted the construction (1828) of the *Rocket, and Novelty*, by R. Stephenson, and Braithwait, and Ericsson, under the stimulus of £500 stg, offered by the Directors of the Liverpool and Manchester Railway, with the stipulation, "that the engine should be capable of drawing, day by day, on a well constructed *level* railway, a train of carriages of 20 tons, including the tender and tank, at the rate of ten miles per hour"!!—Our 18 ton engines, now draw, over the Philadelphia and Reading R. R., with grades of 15 feet, and curves, trains of 1197 tons gross, at the average rate of ten miles per hour.

It is about seventy years ago, that *Darwin* wrote with more truth than poetry, when he prophecied:

"Soon shall thy power, unconquor'd steam! afar
Drag the swift Barge, and speed the ponderous Car."

John Fitch, who died in poverty, as early as 1787 propelled a steamboat, with sculls, on the Delaware, at the rate of eight miles an hour; and subsequently, on the old Collect Pond, in New York, used the *side paddle wheel, for the application of which*, aided by the long purse of Livingston, Fulton got the credit from Fitch. If my memory serves me, Mr. Fulton failed to establish his originality, in a suit that was tried in Trenton, N. J., on an injunction brought against the owners of Steamboat Pennsylvania, on the Deleware. Fitche's papers, with the account of this trial, may be found at Hoboken, with the son of Col. Aaron Ogden. He was the assignee of Fitch. These papers, in old barrels, should see the light, to give honor to the first man in this country who propelled a boat with steam.

Too much honor, I repeat, cannot be awarded to Col. John Stevens, for being the *first* to project a railway from Albany to Buffalo, instead of a canal. This is a work, which, (if we are to believe the eexperienced E. Haskett Derby, of Boston, and I agree with him cordially, as well as in the three positions quoted from Stevens,) that a railway from Buffalo to Albany, if *properly constructed and* JUDICIOUSLY LOCATED, *with a level, or decending line*, as it can be, is competent to transport persons, and all classes of freight, on such a thoroughfare, and in quantities, at much cheaper rates than the enlarged Erie canal, can do it. They are both to be on a par, free of tolls. I draw the conclusion, therefore, that the River railway—and even two railways to Albany—are, after all, not such "visionary undertakings."

They will both pay good dividends, and astonish those who have often contended with the writer—"that the North river—with the Housatonic railroad for winter travel (!!)—was all the city of New York required." They called any railway to Albany, in 1838-9, "a visionary project," and seven years ago, stated that I was fit for a straight jacket, when I contended.—(See sketch of a railway, 1841, pages 81-2-3, and 100)—"of the ability of a railway to contend successfully with the steamboats on the Hudson river, so as at least to compel them into a rate, that would be mutually advantageous, and at the same time an accommodation to the public." The R. R. Journal, 1837-8, show that, with its Editor, I was the *first* to raise the flag—"Rail Roads *versus* Canals." The immense volumn of passengers, and of freight, destined to pass over the River road, as well as the Harlem railroad on its connection with the vallies of the Housatonic and of the Connecticut, renders it difficult to form an estimate of their receipts and profits even by the most sanguine. It will greatly exceed all belief at present. As early as Feb. 7, 1839, in an estimate of the income of a railroad to Albany, called for, and attached to the report of John B. Scoles—Assem Doc. No. 171—page 5 to 27,—I then placed it at $990,000 gross, and on the 15th March, 1842, at $1,130,000,—and, the passengers, then floating daily, on the Hudson, at 5188 persons. This number, I perceive Wm. C. Redfield, in a late excursion along the Hudson railway, with his usual accuracy and prudence, states to be "8000 *persons, who pass and repass daily, in the active business season of the year.*" I have no doubt of this important fact. It settles the question of the profit of even two railroads to Albany. Allowing them but a moity of the business.

On another occasion, I may go into details of income; also, of those, to whom some credit is due, for long and continued efforts in your press, and others, to enlighten *capitalists*, on the merits and the profits of *one* railroad to Albany: a class of men, who shut their eyes from 1836 to 1842, to the efforts and the enterprise of the capitalists of Boston, aided by their State, to construct their Great Western Railroad. It was this work, projected by manufacturers, to regulate the provision market of Coenties slip, after the close of the North river, *that* was the *gad*, to awake the Van Winkle capitalists of New York. This was long after the Messrs. C. H. Hall, J. B. Murray, Jacob Harvey, Aaron Clark, J. I. Coddington, I. Rich, J. E. Bloomfield, E. F. Johnson. D. K. Minor, and a host of others, with more brains than capital—after several trials—could not start even one railway, under a better charter than now exists. There will now be three railroads to Albany!!—all paying dividends, as I am prepared to demonstrate. Each will create a business of its own, profitable to the New York city and to the stockholders of these important works, *sufficient* to justify their construction.

I cannot close, without giving credit to one, *in practically securing the construction of a railroad on the margin of the Hudson river.* To the long purse, and Scotch persevering character of JAMES BOORMAN, Esq., all honor is due, from facts within the knowledge of the writer. He was firm, while others faltered. This is due to him, although I differed with him in plans and routes for the road. This gentleman justly gives credit to Mr. Gouverneur Kemble, as among the *first* and fast friends of the Hudson river project. He was its soul before R. P. Morgan was thought of. Next, I would place A. G. Thompson,—perhaps he should precede both these gentlemen, as he got up a meeting of capitalists at the Mayor's rooms, 15th March, 1842, aided by Gen. C. W. Sandford—"to take into consideration, the subject of a rail road between N. York and Albany," over which Stephen Allen presided. Judge A. Vanderpool took part in the same, and is reported, truly,—"read an interesting paper relative to the Boston railroad," to wake up capitalists.

At this meeting, an address, prepared by the writer, of this, at the request of Messrs. Thomspon & Sandford, was submitted, taking a general view of the subject, *with calculations of profit for the investment.* It was the condensed labor and reflection of six years in the cause. As a proof, the same views may be found in a Legislative report, 8th Feb. 1839—Assem. Doc. No. 171,—also, in the Evening Post, 1838,—Railroad Journal, and other N. York papers,—entitled, "*Statistical Facts, in relation to the New York and Albany railroad—showing the importance of the work to the city of N. York* and to the interior." Also, Doc. No. 10, of Isaac L. Varian—22d. June, 1840,—and a report of J. Rich and nine other aldermen. This address, and calculations of profits, was issued in a circular, dated the 24th March,

1842, over the signatures of thirteen of your leading capitalists. It was widely circulated by the parties, asking "the attention of the public *to the facts*, set forth in the address."

It is but just, that—with such names, as fathered this production for which no credit was given, and with six years previous labor in the Railroad cause, in collecting and publishing all railroad information derived from abroad, and from the experience in the United States, to prove that at least one railway was necessary to reach Albany, in 5 hours—"to head off" Boston.—Others, not named by "B," should not have been forgotten by him, in distributing his honors, have done "some service" towards getting a railroad to Albany, by showing it would be profitable. J. E. B.

Mexico, Dec. 6, 1843.

Cheshire and Sullivan N. H. Railroads Opening.

The remaining part of the Cheshire, N. H., railroad, from Keene to Bellows Falls, was opened for regular travel on Monday, the 8th inst.; and the Sullivan road, from the termination of the Cheshire road, at B.F., to Charleston, 28 miles, on the 4th, by which the travel from Boston on this line is by railroad over 130 miles to Charleston,

Another year, or 18 months, at the most, will complete the connection with the central Vermont road and the Rutland road, both of which will reach Lake Champlain, and connect with the northern New-York road, and with the St. Lawrence, at Ogdensburgh; and, also, a connection will be formed with the Connecticut and Passumpsic river road—reaching to Canada line—thus opening a region of country to the railroad interest which will yield rich rewards and ample returns to those who have *deserved* them.

The following remarks, by the editor of the Keene Sentinel, shows the interest taken by the masses in the progress of this noble work:—

"The Cheshire and Sullivan railroads were regularly opened for travel on Monday last. Two trains a day now pass between this town and Charlestown, connecting with the morning and afternoon trains to and from Boston.

The Sullivan railroad, from Bellows Falls, Vt., to Charlestown, N. H., was opened for travel on Thursday, the 4th instant. The occasion was celebrated in a proper style, by a large number of the stockholders and friends of the road. A train left the Fitchburg depot in this city at 20 minutes past seven, and arrived at Charlestown at a quarter past two—the distance travelled being about 122 miles.—On the arrival of the train, the bells of the meeting-houses rung a merry peal. A splendid collation was prepared by the people of the town, which was very acceptable after the long ride. Mr. Enos Stevenson was president of the day. He was assisted by ex-Governor Hubbard, both of whom reside in Charlestown, and both of whom have been competitors for the Gubernatorial chair of New Hampshire.—After the wants of the body were supplied, Gov. Hubbard, president of the Sullivan road, T. M. Edwards, president of the Cheshire road, Hon Stephen Salisbury, of Worcester, S. M. Felton, engineer of the Fitchburg road, Mr. Jarvis, of Ohio, and others, made speeches and gave sentiments. The time passed merrily until five o'clock, when the train returned to Keene, where the company stopped over night. Next morning those who went from Boston returned. The occasion was a very agreeable one, and will be remembered with pleasure by those who were present."

The following statement is a beautiful illustration of the sagacity and enterprise of our New England friends. The Boston Courier says that "the following railroads and sections of railroads, leading towards Boston, or connecting with Boston lines, will have been opened during the year ending Jan. 31, 1819:

Cape Cod railroad, length about	27½	miles.
South Shore, " "	11½	"
Norfolk county railroad, length about	20	"
Milford branch, " "	12	"
Vermont and Miss. railroad, length about	35	"
Connecticut river, " "	11	"
Cheshire, " "	37	"
Sullivan, " "	28	"
Vermont central, " "	65	"
Bristol, " "	12	"
Northern, " "	4	"
Boston, Concord and Montreal, " "	36	"
Passumpsic, " "	40	"
Worcester and Nashua " "	45	"
Portland to Lewiston, " "	27	"
New York and New Haven railroad to Harlem railroad, length about	60	"
Section of Ogdensburg railroad, length about	12	"
Stony branch railroad, length about	14	"
Lowell and Lawrence, " "	12	"
Total miles,	513	

"The cost of these lines may be safely estimated at fifteen millions of dollars, and their annual dividends promise to exceed one million dollars. The completion of this extent of railroads must greatly help the business of Boston, and relieve the money market."

Suspension Aquaduct on the Delaware and Hudson Canal.

The Delaware and Hudson Canal Company, have for the last two years, been actively engaged in the enlargement of their canal and locks for boats of 120 tons, those now in use measuring 50 tons. The enlarged canal, has a width of 30 feet in bottom, slopes two to one, and will have a depth of water of six feet six inches. The capacity of this improvement, which forms the only line of transportation between the Lackawanna coal fields and the Hudson river, will, when the enlargement is completed, be adequate to a business of two millions of tons. It cannot be expected that such vast results will grow out of the next few years, but the present enlargement has been undertaken with a view of eventually increasing the business of mining as well as transporting, to the extent above indicated.

A simplicity of operation is observed on the canal as well as on the railroad, from Carbondale to Honesdale, under charge of James Archbald, Esq. which attracts attention. Great work is done here by little means, comparatively speaking, and this applies to the railroad with peculiar force. When the expensive character of this line of navigation is considered, in connection with a railroad, crossing a mountain by means of twelve inclined-planes, so well arranged and worked, that the apparently formidable barrier ceases to be an obstruction, we may readily conclude, that the rich dividends of the company, are not the result of accident, but rather the legitimate consequence of a fortunate position, and of a wise and prudent management.

The Delaware river is now crowded in a pool at the mouth of the Lackawaxen. To avoid the frequent delays, caused by high water and rafting, a total change of location was concluded on by R. F. Lord, Esq., principal engineer in charge of the canal. This change rendered the construction of two aquaducts over the Lackawaxen and Delaware rivers necessary. After an examination of the Pittsburgh suspension aquaduct, Mr. Lord advised the company, to adopt the same plan, and to accept my proposal for the erection of the super structure, the masonry to be done by the company. The two works are now completed and ready for the opening of navigation next spring.

The following exhibits some of the dimensions of the Delaware aquaduct.

Number of spans, varying from 132 to 142 ft. 4	
Width of bottom of trunk, - -	17 ft. 6 in.
" " trunk on top, - -	20
Depth, - - - - - -	9
Depth of water, - - -	6
Weight of water is 142 ft. span in tons of 2000 lbs.	484 tons.
Tension of cables resulting from this weight, 708 "	
Diameter of each of the two suspension cables, - - - -	8½ inch.
Number of strands composing a cable,	7
Number of wires in each strand, -	307
" " in one cable, - -	2150
" " in both - - -	4300
Number of feet of wire, weighing 1 lb.	175
Weight of one lineal foot of cable and wrapping, - - - - - -	130 lbs.
Length of each cable and anchor chains,	664 ft.
Average strength of one wire, - -	1800 lbs.
Ultimate strength of both cables, - -	3870 tons.

The wire cables do not extend below ground, but connect with anchor chains, the cross sections of which exceeds that of the wire fifty per cent.; the strength of wire being 90,000 lbs. per superficial inch, while the chains will not bear over 60,000 lbs.

The trunk of this aquaduct is lined with a towpath of 6 feet wide on each side.

The Lackawaxen aquaduct, forms two spans of 114 feet each, suspended to two cables of seven inches diameter, same size as those at the Pittsburgh aquaduct.

I have contracted with the company, for two more aquaducts, one over the Roundout river, the other over the Sink river, of 170 feet span, requiring cables of 9½ inches diameter, large enough for the support of a suspension bridge over the Niagara river, at the site in contemplation below the falls, of 750 feet span. Truly Yours.

JOHN A. ROEBLING.

A statement of facts, in relation to structures of this kind, must be interesting to those engaged in building railroads and bridges; and we therefore requested Mr. Roebling, to give us the details in relation to the works upon which he has been for some time engaged.

Mr. Roebling's work, both on a suspension aqueduct and a suspension bridge—has been thoroughly tested at Pittsburgh, for several years with heavy loads—and, as far as we have heard, with entire success; and, from what we hear in relation to those which he has just finished for the Delaware and Hudson canal company, of which we give above a partial description, he will lose none of his well earned reputation, as we are quite sure they will be found equal to the work required of them.

Some of the eminent English engineers opposed suspension bridges for railroads—and adopted *wrought iron tubes*, of enormous weight and cost.—Those on the Holyhead railroad, over the Dee, of four hundred feet span in the clear, weigh 1300 tons each; and at 10 cents a lb. will cost $291,200 each, or $582,400 for the two, without the mason work, and expense of putting them in place; and those over the Menai straits, being about *thirteen hundred and fifty feet* long—or two spans of 450 each, and two spans of half that length—must weigh at least, for a double track, *three and a half times* as much as those over the Dee—or 4550 tons, and cost at 10 cts. per lb., $2,038,400, without the masonry—which, at that place will probably amount to near half a million of dollars, thus making the

bridge over the straits cost about $2,500,000!! an amount which would make us, in this country, hesitate for a *long time* before we should undertake it. It is however, fortunate that we can span our rivers at much less cost—as we hope to show to the world by the construction of a railroad suspension bridge of *eight hundred feet* span, *two hundred and forty feet* above the torrent of the Niagara—every way suitable for a railroad bridge, and a common road bridge with foot paths for pedestrians, at a cost of less than *one-tenth part* of the cost of the bridge over the Menai straits—or not to exceed $180,000; or we will engage that it shall be done for that amount—in the most safe and substantial manner.

THE LOCOMOTIVE ENGINE—ITS INVENTORS AND IMPROVERS.

We find the following account of the early history of the Locomotive Engine in the biographical sketch, of Mr. George Stephenson, deceased, recently published in the London Periodicals. We give it a place in the Journal as a matter of interest at the present day, and for future reference.

"Mr. Stephenson was now getting beyond his thirtieth year, his mind stregthened by knowledge, and by the trust that what he might do would reap its full reward. His child was growing up to boyhood, while his earnings were still so slender that he could do but little for his schooling. He had at this time felt bitterly his own want of learning, and he made up his mind that he would put his son to a good school, and give him good breeding. "I was, however," said he afterwards, at a meeting at Newcastle (*u*,) "a poor man; and how do you think I did? I betook myself to mending neighbors' clocks and watches at night, after my day's work was done; and thus I got the means of bringing up my son." This he might well say with boasting, for it is one of the bright lights in his life.

"The great draught of coal on the tram ways, and the heavy trains which went forth from the pits, had set the minds of many at work to use steam instead of horses to draw the loads. The stationary engine worked well on the incline, but the steam-horse was called for to run throughout from the pit's mouth to the ships's side. In 1758 or 1759, Dr. Robison, then a young man, had hinted to Watt to put steam to work wheel-carriages. (*w*.) Watt, however, had other things on his mind, though he named it in his patents of 1769 and 1784; but as Watt had a dislike for high-pressure steam, that may be one cause why he never made a locomotive. (*x*)

"About 1763, John Theophilus Gugnot, a Lorrainer, showed a model of a steam-carriage to the Count de Saxe. He afterwards went to Paris, and got the help of the Duke de Chiseul. In 1769, he built an engine at the cost of the king, and it was tried in 1770. It moved with such strength, that it knocked down part of a wall which stood in its way; therefore some thought that the power was too strong to be kept within bounds, and not fit for common use. (*y*) It is said the engine was given up, and put in the Arsenal Museum, and is now kept in the Conservatoire des Arts et Metiers. It would be worth while for an engineer who may be in Paris to look after it.

In 1782 or 1792, Murdock made a model of a steam-carriage at Redruth. This was perhaps the beginning of Trevithick's, who is said to have been brought up under Murdoch, and who knew him well.

"In 1786. Oliver Evans laid a plan for steamwagons before the commonwealths of Pennsylvania and Maryland, and the latter gave him a privilege for fourteen years, yet he was never able to get money enough to build a wagon. All that he did was, in 1804, to put wheels on a steam-dredging machine he had made for cleansing docks, and which he made to move slowly, though in a cumbersome way. (*z*)

"On March 24, 1802, Trevithick and Andrew Vivian took out a patent, (*a*) which, among other things, was for the use of high-pressure steam for carriages, and by which the weight of the engine was brought very low. A carriage was made and ruu in Cornwall, and afterwards in London. Another was made in 1804, in South Wales, which was worked on the Merthyr Tydvil railway, and "drew after it as many carriages as carried ten tons of bar iron, from a distance of nine miles, which it performed without any supply of water to that contained in the boiler at the time of setting out, travelling at the rate of five miles an hour. (*b*) The engine had an eight-inch cylinder, and the piston a four-feet six inches stroke. (*c*)

"These engines fell into dislike, from the one on the Merthyr Tydvil railway blowing up, (*d*) having been made (against Trevithick's orders,) without a safety-valve, and likewise from the wrong belief which got about that the wheels had no bite on the rails, and could not work up a slope. (*e*)

One of Trevithick's engine was sent, singularly enough, to George Stephenson's birth-place, to Mr. Blackett, of Wylam; and thus it came within his sight. This happened most strangely, and most luckily, for the mind of Stephenson was now brought to bear on the great work of his life. The finding of Trevithick's model by Uville was strange, and most fruitful in the deeds it brought about; but perhaps we owe more to the Wylam engine.(*f*) On some ground or other, the engine does not seem to have been put to work on the trainway, but was used to blow a cupola in an iron foundry at Newcastle. (*g*)—This engine had one cylinder only, and a fly-wheel to secure a rotatory motion in the crank at the end of each stroke. If Mr. Blackett did not, however, work this engine, he had another of the same kind made and set upon his trainway at Wylam; and in 1813, it worked by the adhesion of the wheels on the rails, thus upsetting the belief that the engine could not so work.

"On the 30th December, 1812, William and Edward Chapman, took out a patent for an engine, with additional wheels to work upon a chain stretched along the middle of the railway the whole length. This engine was tried on the Heaton tramway, near Newcastle, but given up.

"On the 22nd May, 1812, William Brunton, of Butterley, took out a patent for a locomotive with legs. This was tried and worked. In 1811, Mr. Blenkinsop had hit upon the plan of having a cog-wheel and cog-rail to overcome the adhesion.

"At this time, Mr. Blackett was fully at work experimenting on the Wylam railway with an ill-made engine of Trevithick's which was found to be very troublesome, as the irregular action of the single sylinder made jerks in the machinery, so as to shake it in pieces. Still, the whole of the coals were taken down the tramway by this kind of engine. (*h*)

"By this time George Stephenson was likewise at work; and Lord Ravensworth and the Killingworth, owners had such trust in him, that they gave him the money to make an engine in the opening of 1814, and on the 25th or 27th July, 1814, (*i*) it was tried on the tramway. As Stephenson said Lord Ravensworth and his partners were the first to entrust him with money to make a locomotive engine, "We called it 'My Lord.' I said to my friends, there is no bound to the speed of such an engine, if the works can be made to stand it." (*k*)

"The engine had two cylinders, each eight inches diameter, and two feet stroke; the boiler was cylindrical, eight feet long, and thirty four inches diameter; the tube twenty inches diameter, passing through the boiler. The cylinders worked two pairs of wheels by cranks placed at right angles, so that when the one was in full operation, the other was at its dead points, by which means the propelling power was always in action. The cranks were held in this position by an endless chain, which passed round two cogged wheels placed under the engine, and which were fixed on the same axles on which the wheels were placed. The wheels in this case were fixed on the axles, and turned with them. (*l*)

"The trial was made on a piece of road laid with the edge-rail, rising about one in 440, and was found to drag after it, besides its own weight, eight laden wagons, weighing altogether about 30 tons, at the rate of

(*u*) Newcastle and Darlington opening.
(*w*) Robison's Mechanical Philosophy.
(*x*) Penny Cyclopædia, Art. "Steam Carriage."
(*y*) Stuart's "Steam Engine."
(*z*) Mechanics' Magazine, No. 372.
(*a*) Repertory of Arts, 2d ser., p. 241.
(*b*) Wood on Railroads, 1st edtion, p. 127.
(*c*) Stuart's "Steam Engine," p. 460.
(*d*) Railway Register, vol. v.
(*e*) Lardner on the Steam Engine, 1840, p. 336.
(*f*) Stuart's Anecdotes of the Steam Engine. Civil Engineers's Journal, "Life of Trevithick."—Railway Register, vol. v.
(*g*) Wood on Railroads, 1st, 2d, and 3rd edition. 2d edition, p. 126.
(*h*) Wood on Railroads, 2d edition, p. 134.
(*i*) Wood on Railroads, 2d edition, pages 134 and 136, where different dates are given. In the report of Stephenson's speech at Newcastle, in 1834, he is made to say that the date was 32 years before, which would be in 1812. This is a mistake.
(*k*) Speech at the Newcastle and Darlington opening.
(*l*) Lardner on the Steam Engine, p. 340.

four miles; and after that time, it kept steadily at work. The application of the cylinders made the working of the engine regular and secured the steady progressive motion which was wanted in the Wylam engine, there being only the single cylinder and fly-wheel. (*m*)

"It was not till the next year, that Stephenson took out a patent for his locomotive; and here we find the bad working of the patent laws as bearing upon our poor workmen. Had it not been that his first engine was not perfect, he could have had no patent, and would have reaped no fruit from his days and nights of toil, as he could not raise the money to pay the heavy fees which are drawn from the patentee. Even for his first trial he wanted money, and for which he was beholden to the kindly feeling of Lord Ravensworth. Much happier than Oliver Evans, who fruitlessly sought in America and England, for the means wherewith to start his steam-wagon.

AGRICULTURE AND RAILWAYS.

The Scottish Railway Gazette holds the following language in relation to the advantages of Railways, upon the agricultural community of Scotland. We hold the same views in relation to a large portion of this country; and we desire to place the subject fairly before the American people. Therefore we give it a place in the Journal.

The Railway System and Agriculture—The Caledonian Railway.—We have, ere now, had occasion to urge that no class in the State has its interests more closely connected with the railway system than our home agriculturists. A system of good roads is to the landowner and farmer what an extensive sea board and first-rate harbors are to the commerce of a nation. But even when the modern highway plan had been extended over a wide surface, and made to intersect districts not accommodated in such a way before, the change, though beneficial, was still partial. Carriage by draught is a tedious and most expensive process, as every-day's experience shows. Hence lime and other manures were often carted to farms at an enormous cost—at a cost, indeed, operating almost as an interdict on the article. Large tracts of land were left uncultivated or but partially put under tillage, and an enormous deficit was left in the native supplies of corn and other crops. Nor was this all. It was often a matter of expense, difficulty, and time, to convey farm produce to market; and nothing could be more tortuous and thriftless than the mode of driving stock to the sale pens at a distance. The sight of a drove on a hot day—the animals jaded, thirsty, and tortured by all manner of insects—was pitiful in the extreme; while the fatigue, and other incidents of the march, depreciated the value of the beasts in the carcass market. No improvement in the turnpike system could obviate such inconveniences, or materially diminish their number. The railway system, however, was interposed at the period when it became most necessary that our agricultural resources should be fully developed, and when, with foreign rivals to contend with, it is, perhaps, more necessary than the means of the landed interest should keep progressing rather than take a retrograde movement. And here this grand expedient has achieved as great wonders as it has done in the case of passenger locomotion. What do we find? A perfect maze of wonders—bestial by tens of thousands hurled along without putting hoof to ground, by a power which never wearies; wheat, corn, potatoes, legions of fowls, and masses of "yellow butter," with vegetables to an extent enough to supply the commissariat of Xerxes—all conveyed for miles, with lightening speed, day by day; and even the fluid produce of the dairy, brought reeking from the cow, is sold at a high profit at a distance of many miles from the farm, and as sweet as if it was carried by the milkmaid to customers in the adjacent village. On the facility which the railway has supplied for the transit of the substances necessary to renovate the soil and supply its nutritious and vitalising properties, we need not expatiate.

These remrrks have been partly called forth by a consideration of the circumstances connected with the Caledonian Railway. This great undertaking—great even amidst the huge measures of enterprise with which we are familiar—it is calculated will, in all its ramifications, absorb five millions of money. This is a high figure truly; but, regarded in even its agricultural bearings, we should not wonder if, in the experience of people now alive, it enhanced the value of the mere soil through which it passes to an extent equal to its own cost. The rise in the value of land near the iron road is in some cases all but incredible, though explained by the facts already set down. Nor does the superinduced advantage terminate at the landlord and farmer, but adds also to the profits of the work which was the agent in its production. The Caledonian Railway passes through much barren and sterile land; and in some cases the climate locally, is ungenial. But one grand object the line is destined to fulfil, and that at no distant day, is to convert such useless soil into the field of an extensive and profitable tillage. The grand means of effecting the change must be capital; but the facility furnished by the railway for bringing to the spot the substances necessary for fertilising the land, and again for conveying its produce to market, will assuredly justify and encourage the outlay of money; while, as regards climate, its amelioration stands towards cultivation in the way of the effect to the cause. We have just before us a little book (which we advise our readers to procure(, entitled, "Moffat, its Spas and Neighborhood," by Mr. Fyfe, which has several references to the bearings of the Caledonia Railway on the agriculture of the Moffat district. Our auther says—"Already the fields adjoining the line that *are* improvable are beginning to wear the marks of drainage; the pastures at this season are uniformly receiving their top-dressing of lime; and, when their beautiful green salutes my eye, I say I don't care for their known elevation above the sea level, and their want of shelter. They will be planted—they will be sheltered—some of them will ultimately be subsoiled. The railway will do all this, so you will see trees and human habitations where now there is nothing but an open moorland dotted with sheep." Even as regards pasturage, apart from husbandry, the railway has done a deal, and promises to effect a great and advantageous change. Referring to this important point in rural economics, Mr. F. has the following statements as to the Moffat district:—"The attention paid to the pastures is admirable.

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At present the braes and a considerable belt of the aclivities of the mountains may be seen dotted over with the lime heaps about to be applied for the topdressing the grass. Formerly the lime was chiefly drawn to this distance from Douglas, a distance of 23 miles; and one agriculturist has informed us that the carriage stood him 8s. 6d. per cart load, his own horses being inadequate, with other work, to undertake the drawing of 800 cart loads—the quantity he required—and the time occupied, even with night travelling, being a day and a half. The pastoral farmers of Moffatdale can now, however, command the mountain limestone of Westmoreland and Cumberland, at an easier rate per railway than they once could the nearest Scotch shells. The consequences will be the extension and enrichment of the pasture, &c. Such results will, we trust, be largely extended in this case, and an improvement not merely valuable, but lasting, be effected over miles of land now comparatively useless. To the railway system so great a benifit will be owing. Of its realisation we cannot entertain a doubt; and what has been done already is a pleasing example, and, we believe, certain omen of wide-spread agricultural and pastoral improvement in the districts traversed by the Caledonian Railway and other Scotch lines."

DEPRECIATION OF RAILWAY STOCK,

Or Mode of Presenting Railway Accounts.

The following report, made by *Captain Huish*, of the *London and North-Western Railway*, will be found of interest, and utility, we are sure, to many of our readers, and we therefore give it a place in our Journal. The experience of the author enables him to speak understandingly on the subject, and we hope the length of the article will not prevent its being generally and carefully read:—

To the Chairman and Directors of the London and North-Western Railway—Euston Station, June 1848.

Gentlemen,—It will be in the recollection of those directors who compose the general board, that, on making up the accounts for the half-year, ending 31st December, 1847, a discussion arose in regard to the necessity, or at least the propriety, of setting aside a con-

(*m*) Wood on Railroads, 2d edition, p. 136.

siderable sum, over and above the cost of repairs and renewals during the six months, to meet the "depreciation" which it was contended had been insensibly going on, and which no renovation could fully provide for. The result of the deliberations on this point was the transference of 30,462*l.* from the surplus revenue of the half year to the credit of "the working stock," or, in other words, the extinction of so much of the moving capital of the concern, with the view of maintaining a due relation of first cost to present value.

In adopting this course, the board proceeded on a practice which had for many years been followed by the London and Birmingham, and to some extent by the Grand Junction company, and, admittedly, without being in possession of certain data on which to ground the application of that or any particular amount. The appropriation proceeded, in fact, from that anxious desire which the directors of this company have always evinced, to make ample provision for all possible demands, and not to swell the dividend by the division of anything which might be due to the permanent maintenance of the large and varied stock of perishable machines, by whose intrumentality the earnings of a railway are produced.

That such a feeling is laudable, no one can for an instant doubt: and the error, should it prove to be one, is only an excess of prudence which must eventually react in favor of the company.

The peculiar position, however, of a railway proprietary must not be overlooked. It is a fluctuating body; incessantly parting with its constituent members, and receiving new partners. But the duration of the corporation is perpetual, and the object which the managing body must, consequently, keep prominently in view is, so to apportion the burthens of each half year as to do full justice to existing holders of the stock, without regard to the prospective proprietors; and, at the same time, to guard against any attempt to produce a temporary advantage at the expense of the future interests of the concern.

But while this principle, as such, is so admitted by all parties conversant with the subject, that it is unnecessary to do more than allude to it in passing, the means of arriving at it, and of working it out, involve a question, perhaps the most unsettled in the whole range of railway management. We are without any admitted formula; scarcely two companies act alike; and even the same company, at different periods of their history, have adopted conflicting systems.

The question of "depreciation" has long formed a fruitful source of argument, and, with all the experience of 20 years, seems to be still undisposed of.

That it is one of paramount importance, cannot be denied; because, in fact, the whole structure of the half-year's working cost, in three of the principal departments of expense, and, consequently of the surplus profit applicable to the dividend, must hinge upon it. If it is allowed too prominent a claim, there is risk of the fair earnings on the present proprietor's capital being swallowed up, and his property proportionally depreciated; and, on the other hand, if altogether discarded, there is danger of paying dividends out of capital, and producing an illusive prosperity, which must, at no distant day, lead to serious results. The facility also which this large and doubtful item affords for producing a "satisfactory report," and the temptation which it holds out to a railway executive, is an additional reason for regarding it with extreme jealousy. Other expenses are fixed and defined—this is an indefinite incubus which it is difficult to avoid, but very unpalatable to meet.

The facts upon which calculations of "depreciation"—that is, the amount of "wear and tear" beyond the cost of the perpetual reparation and renovation, which is charged under the general term of "repairs," and which attracts, as an element, to the working of traffic—have been too carelessly noted. That such an item exists, and should be added in making up the cost of conveying every passenger and ton of goods, may be admitted; but it is extremely difficult to arrive at any safe rule which shall be applicable in all cases.

The question would, indeed, be comparatively simple, if the elements for solving the problem were to remain constant. If, for instance, a line of say 20 or 500 miles could remain isolated, if it never constructed branches, and closed its capital account, and we could conceive an unvarying traffic for a long series of years. It would not be difficult to maintain an equal ratio of working stock for an indefinite time without improvement or retrogression; but such a case cannot exist. We are doomed to be in what is termed a "transition" state; disturbing causes are always at work; improvements in machinery, new lines, increased traffic and demands for better accommodation, are for ever interfering with comparative calculations, and the experience of the past cannot be brought to bear with exactitude on the proceedings of the present.

Still something may be done, and sufficient, I think, to enable us to avoid any very serious mistakes. We have the materials of our own past experience; we have had valuations, and we possess the practical results of other companies, large and small, to guide us. In troubling you, therefore, with this report, I am desirous of investigating the subject, of elucidating it by its effects on the London and North-Western, as well as other lines, and of placing upon record a correct inventory and estimate of the entire moving stock of the company.

I am not sanguine enough to suppose that I can throw much new light on the question, considered in the abstract; but the inquiry will be useful if it collects scattered facts and leads to further scrutiny, and if, as I believe, it proves that the directors have erred (on the safe side, it is true) in regard to their "depreciation" of the working plant.

Now, it being sufficient for the object admittedly in view permanently to maintain *out of revenue* a working stock in the most efficient state, repairing it as required, and replacing it when worn out, but neither improving its condition nor suffering it to deteriorate, it is evident that three leading points will embrace the whole question at issue.—These are, the "*original cost or value*," the "*present market value*," and the "*effective value*" to the concern.

The first, and to a considerable extent, the last, are definite. The second is continually fluctuating with the demand and supply of the day. Still, taken over a series of years, it may be assumed that "market value" will remain pretty nearly equal, allowing for a continued gradual reduction consequent on that improvement and economy of construction which is the result of skill and experience.

But the "*effective value*" of a plant, properly attended to, will more than keep pace with the "*market value*," and both will differ from the "*original value or cost*," without leading to any suspicion that the account is wrong. The necessary result of continually reproducing similar articles, is to cheapen their cost and to improve their character; and this produces a constant divergence of market value, and effective value from original cost, but in opposite directions; the market value becoming less, and the effective value greater; so that if in ordinary times, and uninfluenced by any unusual demand, the present "*market value*" of a stock equals the "original cost," it may fairly be assumed that its "effective value" is greatly enhanced. Let it be remembered also, that as the railway is a permanency, the "effective value" to *use* is of more consequence to us than the "market value" to *sell*, and that the real advantage of possessing the latter is to act as a contingent check on the accounts.*

A due attention to these three propositions and their relation to each other, will enable us to test, pretty accurately, the effect of wear and tear, or what is called "depreciation."

Keeping a stock maintained out of revenue in a perfect effective state, and at a value

* The following report from Mr. Wright, who has had a very large experience, illustrates my meaning:—

June 10, 1848.

Statement, showing actual cost, and comparative value (as regards accommodation and quality), of 1st and 2nd class carriages in the years 1837 and 1847.

Date	Class.	Cost	Comparative value (size accommodation, etc.)	Difference in favor of 1847	Remarks
		£	£	£	
1837	1st	420			per carriage.
1847	1st	380	475	95	
1837	2nd	300			
1847	2nd	260	338	78	" "

This difference is allowed for in my valuation, which is the *present* market value of the carriages, independent of their first cost and effective value.

J. Wright.

Thus showing that while the market price is now 11 per cent. less, the real value is 12½ per cent. more; thereby proving, that where the aggregate market value equals the original cost, the effective value is 23½ per cent. more.

equal to the original cost, and at the same time charging depreciation, are clearly incompatible. But a second-hand article, be it an engine, carriage or wagon, cannot be made equal to new, unless in process of time it may be so thoroughly changed in all parts as no longer in fact to retain anything but the name of its former self. And as this entire renovation, though effected in some departments, was supposed not to run through the whole range of the stock, the system, or rather I should say, the expediency of meeting by a depreciation allowance, the inability to overtake the decaying process, forced itself on the attention of railway officials.

The means, however, exists of still keeping up the same aggregate value of a stock, when deteriorated by age, without any "depreciation," by adding out of revenue so much new stock as shall represent the difference of value in any given time; and this is the practice (supposing justice to be done to the stock) where no "depreciation" is allowed for.—Upon this principle the board acted on the occasion of the last valuation of stock, in 1846. The subject was then discussed at some length, and the following were the instructions issued to the valuers on the occasion. They were drawn up by Mr. Booth, who had conducted the Liverpool and Manchester line from its opening, without any allowance for "depreciation."

"The locomotive committee think it right to state to the parties about to undertake a *detailed valuation* of the moving stock of the company, the principle on which they think it expedient they should proceed, in ascertaining and agreeing upon such valuation.

"The committee wish to know the present value of the company's stock of engines, carriages, and wagons, &c., estimated with proper allowances, according to the present average price of new engines, carriages, etc.; suppposing it were practicable to purchase a large stock on the same terms as new engines, and carriages are now supplied in limited numbers by various builders.

"The committee request that the valuers will consider themselves for the moment *contractors* for providing and upholding the moving stock of the company, and then endeavor to ascertain what such stock is now worth, for the efficient working of the line for a long term of years; the estimate being formed by a comparison with the present market price of engines, carriages, and wagons. For example, if in regard to any particular eight or ten of the company's engines or carriages (having carefully examined the state of repair and general condition, age, etc), the valuer shall be of opinion that such eight or ten old engines or carriages would be as efficient, and as valuable to a contractor, as any five or six or any other number of new engines or carriages of a particular description and ascertained certain price, then the ascertained present fair market price of the five or six new engines or carriages will be the estimated value of the said eight or ten new engines or carriages of the old stock; it being indifferent to the contractor, at such estimated value of the old engines, etc., and at such ascertained price of the new, whether for his purpose he take the one or the other."

As the results of this valuation are noted below, I pass on without remark, further than to say that the effect was an estimate which subsequent events have demonstrated to be too low.

Now, without adverting at present to the question of "market value," it will not be denied by any one who has watched the progress of the various companies consolidated under the title of the London and North-Western—since their formation—that the character of their moving plant has greatly improved. The plain, confined, and somewhat rude passenger carriages have become capacious, elegant, and easy. The wagons, originally adapted for 3½ tons each, have given way before a gradual infusion of stock equal to 6 tons load, with corresponding strength of build; and the small 12 inch cylinder engines, which with difficulty drew a light mail train at 22½ miles an hour (the London and Birmingham contract in 1840), have been superceded by powerful locomotives maintaining an average speed of more than 40 miles an hour, with heavy trains.—But not only is the state of the railway plant more efficient for the duty it has to perform than it was some years ago, but another most important feature as regards economy has shown itself, viz, increased *durability*. The superior construction of the carriages, the greater care in the selection of seasoned timber, (a neglect of which was the cause of much deterioration in the early stage of railways), the additional strength of the framing, the nicer adjustment of the working parts of the engines, and the more elaborate finish of every portion of the machinery, not only leads to economy in the daily use, but to a prolonged existence of the machine, without any large amount of renovation.

It is usual to talk of the "life" of a carriage or an engine as so many years, and, having assumed a certain term, to consider that it disappeared from the scene altogether. The original value of the article is then spread over this period, and this is taken as the measure of the annual depreciation. On this reasoning, therefore, the "life" of a locomotive engine or carriage is lengthened as its construction is improved, and hence arises another disturbing element in comparing original cost with "market value" and "effective value." But the term to which I have alluded is calculated to mislead; and it is from what I believe to be misapprehension on this point, that much of the difficulty surrounding this question has arisen. A due proportion must always exist between the age of an engine or carriage, and the amount of repair to be expended on it. A new under-framing one year; a new body the next, besides casual repairs; fresh wheels and axles the third, etc., etc., leaves, in process of time, nothing but the number-plate of the original vehicle. It is true that cases arise when it is cheaper to throw aside a carriage or engine altogether, than to repair it; but even then some of its component parts are worked up, and the carriage never wholly disappears. Thus the northern division of the line was opened with what was deemed an efficient stock of carriage stock eleven years ago. It now possesses a stock admittedly superior as to character, and, during the whole time, not a carriage has been parted with, and the entire number of all classes "broken up" amounts to 13, or less than 1½ per annum. If, therefore, this reasoning, corroborated by such facts is correct, the "life" of a machine is an expression which, if not accurate, should be used in a much wider sense than has generally been applied to it.*

Again, it must be remembered that depreciation as regulated by "market value," takes place rapidly in the earlier stages of working. The difference between a *new* and second-stock is always very great, if it has been used even a few weeks. We know that a private carriage, when run a month, loses perhaps 25 *per cent.* of its "market value" (its "effective value" remaining the same), and that the ratio of "depreciation" then proceeds more slowly; it follows, therefore, that whatever the allowance for "depreciation" is in the first year, it must every subsequent year become less, as it acts on a second-hand stock, and this, of course, without any reference to its effective value.

It will be gathered from the above remarks that I do not attach so much importance to "depreciation" as others have done. I consider it easy to maintain a working plant at its full "market value;" and that, if so maintained, there is every probability of its being actually a better and more efficient stock than it was originally. All that is necessary to *repair* and *replace* out of the current half-year, and the efficiency, or otherwise, with which the service of the line is carried on will be the true test (always bearing in mind the requirements of the traffic), whether depreciation is allowed to creep in or no. It is surely better to prevent than to remedy it.

* The following return of the London and Birmingham stock broken up, seems, at first sight, large; but it will be seen that the bulk consists of second and third class carriages, which were so originally faulty in construction, from bad materials, as to form an exceptional case; and even, including this the annual loss has been under £4,000.

June 10, 1848.

"Statement showing the number and cost of carriages of all classes, and trucks and horse-boxes broken up upon the southern division, and value of materials remaining, from the opening of the line, until 31st December, 1847—

Class.	No.	Cost per Carriage	Total.	Value of old Materials.	Actual loss.
		£	£	£	£
1st class ..	2	420	840	140	700
Ditto mails	3	500	1,500	200	1,300
2nd and 3d	142	100	14,200	3,550	10,650
Ditto.....	36	300	10,800	1,800	9,000
Trucks....	70	100	7,000	1,250	5,750
horse boxes	70	150	10,500	1,500	9,000
	322	—	44,840	8,440	36,400

J. WRIGHT."

(To be continued.)

HUDSON RIVER RAILROAD. NOTICE.—PROPOSALS FOR SPIKES.—Proposals will be received at the office of the Company, No. 54 Wall street, until the 15th day of February next, for a quantity of Wrought Iron Railroad Spikes, from fifty to two hundred tons, (of 2000 lbs.) to be delivered at such wharf or wharves on the line of said Railroad as may be designated by the Chief Engineer in the employment of said Company. The Spikes to be nine-sixteenths of an inch square, headed and sharpened, suitable for the purpose, and to be of such lengths, not less than six, nor more than seven inches, as may be required by said Engineer. The Spikes to be made of the best quality of iron, and put into suitable kegs, with weight and size of Spike marked on the head.

The Directors reserve to themselves the right to accept or reject proposals that may be offered, as they may consider the interest of the Company to require.

JOHN B. JERVIS, Chief Engineer.
Office Hudson River Railroad Co.,
New York, 10th Jan., 1849. } 3t2

FULLER'S PATENT INDIA RUBBER SPRINGS.—The Commissioner of Patents has dissolved the interference which had been declared against this Patent. The Patentee is ready to supply the springs upon the shortest notice, in any quantity, and at a moderate cost. They have now been in use for nearly 4 years, with complete success. They are made of the best materials, are economical, both as to cost and wear; are light and very easy in their motion.

The patent was granted to W. C. Fuller, in October 1845. G. M. KNEVITT, *Agent.*
Office, 78 Broad street New York, and at Messrs. James Lee & Co., 18 India Wharf, Boston.
Jan. 13, 1849.

NICOLL'S PATENT SAFETY SWITCH for Railroad Turnouts. This invention, for some time in successful operation on one of the principal railroads in the country, effectually prevents engines and their trains from running off the track at a switch, left wrong by accident or design.

It acts independently of the main track rails, being laid down, or removed, without cutting or displacing them.

It is never touched by passing trains, except when in use, preventing their running off the track. It is simple in its construction and operation, requiring only two Castings and two Rails; the latter, even if much worn or used, not objectionable.

Working Models of the Safety Switch may be seen at Messrs. Davenport and Bridges, Cambridgeport, Mass., and at the office of the Railroad Journal, New York.

Plans, Specifications, and all information obtained on application to the Subscriber, Inventor, and Patentee G. A. NICOLLS,
ja15 *Reading, Pa.*

IRON BRIDGES, BRIDGE & ROOF BOLTS, etc.—STARKS & PRUYN, of Albany, N. York, having at great expense established a Manufactory with every facility of Machinery, for manufacturing Iron Bridges, Bridge and Roof Bolts, together with all kinds of the larger sizes of Screw Bolts, Iron Railings, Steam Boilers, and every description of wrought iron work, are prepared to furnish to order, on the shortest notice, any of the above branches, of the very best of American Refined Iron, and at the lowest rates.

During the past year S. & P. have furnished several Iron Bridges for the Erie Canal, Albany Basin, etc., and a large amount of Railroad Bridge Bolts, all of which have given the most perfect satisfaction.

They are permitted to refer to the following gentlemen:

Charles Cook, Nelson J. Beach, Jacob Hinds,	Canal Commissioners of the State of New York.
Willard Smith Esq.,	Engineer of the Bridges for the Albany Basin.
Messrs. Stone & Harris Mr. Wm. Howe,	Railroad Bridge Builders, Springfield, Mass.
Mr. S. Whipple,	Engineer & Bridge Builder, Utica, N. Y.

January 1, 1849. 1y*

MATTEWAN MACHINE WORKS.

THE MATTEWAN COMPANY HAVE added to their Machine Works, an extensive LOCOMOTIVE ENGINE department, and are prepared to execute orders for *Locomotive Engines* of every size and pattern—also, *Tenders*, *Wheels*, *Axles*, and other Railroad Machinery, to which they ask the attention of those who wish such articles, before they purchase elsewhere.

STATIONARY ENGINES, BOILERS, ETC., Of any required size or pattern, arranged for driving *Cotton*, *Woollen*, or *other* Mills, can be had on favorable terms, and at short notice.

COTTON AND WOOLLEN MACHINERY, Of every description, embodying all the modern improvements, second in quality to none in this or any other country, made to order.

MILL GEARING,
Of every description, may be had at short notice, as this company has probably the most extensive assortment of patterns in this line, in any section of the country, and are constantly adding to them.

TOOLS.
Turning Lathes, *Slabbing*, *Planing*, *Cutting*, and *Drilling* Machines, of the most approved patterns, together with all other tools required in machine shops, may be had at the Mattewan Company's Shops, Fishkill Landing, or at
39 Pine Street, New York.
WM. B. LEONARD, *Agent.*

FAIRBANKS' RAILROAD SCALES.

THE Subscribers are prepared to construct at short notice, *Railroad* and *Depot Scales*, of any desired length and capacity. Their long experience as manufacturers—their improvements in the construction of the various modifications, having reference to strength, durability, retention of adjustment, accurracy of weight and despatch in weighing—and the long and severe tests to which their scales have been subjected—combine to ensure for these scales the universal confidence of the public.

No other scales are so extensively used upon Railroads, either in the United States or Great Britain; and the manufacturers refer with confidence to the following in the United States.

Eastern Railroad,	Boston and Maine R. R.,
Providence Railroad,	Providence & Wor. R.R.,
Western Railroad,	Concord R. R.,
Old Colony Railroad,	Fitchburg R. R.,
Schenectady Railroad,	Syracuse and Utica R. R.,
Baltimore & Ohio Road,	Baltimore & Susq. R. R.,
Phila. & Reading Road.	Schuylkill Valley R. R.,
Central (Ga.) Railroad.	Macon and Western R.R.,
New York and Erie Railroad;	

and other principal Railroads in the Western, Middle and Southern States.

E. & F. FAIRBANKS & CO.
St. Johnsbury, Vt.
Agents { FAIRBANKS & Co., 81 Water st. N. York. A. B. NORRIS, 196 Market st., Philad.
April 22, 1848. 1y*17

PATENT HAMMERED RAILROAD, SHIP and Boat Spikes. The Albany Iron and Nail Works have always on hand, of their own manufacture, a large assortment of Railroad, Ship and Boat Spikes, from 2 to 12 inches in length, and of any form of head. From the excellence of the material always used in their manufacture, and their very general use for railroads and other purposes in this country, the manufacturers have no hesitation in warranting them fully equal to the best spikes in market, both as to quality and appearance. All orders addressed to the subscriber at the works, will be promptly executed. JOHN F. WINSLOW, *Agent.*

Albany Iron and Nail Works, Troy, N. Y.

The above spikes may be had at factory prices, of Erastus Corning & Co., Albany; Hart & Merritt, New York; J. H. Whitney, do.; E. J. Etting, Philadelphia; Wm. E. Coffin & Co., Boston. ja45

RAILROAD IRON.

THE NEW JERSEY IRON CO.'S WORKS, at Boonton, are now in full operation, and can execute orders for Railroad Bars of any required pattern, equal in quality to any made in this country. Apply to DUDLEY B. FULLER, Ag't
139 Greenwich Street.
New York, October 25, 1848. tf

DIRECT ACTION ENGINES
FOR STEAMBOATS.
THE PATENT DOUBLE CYLINDERS,
AND ALSO
THE ANNULAR RING PISTON ENGINES,
of Messrs. Maudslay, Sons & Field, of London, may be built in the United States, under license, which can be obtained of their agent,
THOMAS PROSSER, C. E.,
28 Platt street, New York.
May 6, 1848.

WILLIAM JESSOP & SONS,
CELEBRATED CAST-STEEL.

The subscribers have on hand, and are constantly receiving, from their manufactory,
PARK WORKS, SHEFFIELD,
Double Refined Cast Steel—Square, flat & octagon.
Best warranted Cast Steel—Square, flat & octagon.
Best Double and Single Shear Steel—Warranted.
Machinery Steel—Round.
Best and 2d gy. Sheet Steel—for Saws and other purposes.
German Steel—flat and sqr., "W. I. & S." "Eagle" and "Goat" Stamps.
Genuine "Sykes," L Blister Steel.
Best English Blister Steel, etc., etc., etc.

All of which are offered for sale on the most favorable terms, by WM. JESSOP & SONS,
91 John Street, New York.

Also by their Agents—
Curtus & Hand, 47 Commerce St., Philadelphia.
Alex'r Fullerton, & Co., 119 Milk St., Boston.
Stickney & Beatty, South Charles St., Baltimore.
May 6, 1848.

NEW PATENT CAR WHEELS.

THE SUBSCRIBERS ARE NOW MANUfacturing Metallic Plate Wheels of their invention, which are pronounced by those that have used them, a superior article, and the demand for them has met the most sanguine expectations of the inventors. Being made of a superior quality of Charcoal Iron, they are warranted equal to any manufacture.

We would refer Railroad Companies and others to the following roads that have them in use. Hartford and New Haven, Connecticut River Railroad, Housatonic, Harlem, Farmington, and Stonington.
SIZER & CO.
January 29, 1848. tf Springfield, Mass.

RAILROAD IRON AND LOCOMOTIVE Tyres imported to order and constantly on hand by A. & G. RALSTON
Mar. 20tf 4 South Front St., Philadelphia.

TO MACHINISTS & MANUFACTURERS. The Subscribers have taken the READING CAR AXLE MANUFACTORY—and are prepared to execute orders for *Axles of every description*, and Wrought Iron Shafts for Steamboats, Mills, etc., made from superior material, at short notice. Address *Reading, Pa.*
ANDREW TAYLOR & CO.
August 5, 1848—3m*

RAILROAD IRON—SHEET IRON— BRASIER'S RODS—HOOPS—SCROLL—BANK'S BEST—& OTHER GOOD MAKES OF ENGLISH IRON.

100 Tons Railroad Iron—Staffordshire make—56 pounds per yard—shipped from Liverpool 20th July, expected to land on wharf from 10th to 20th September.

Also have Invoices of Sheet Iron, Brasier's Rods, Hoops, Scroll, and Band Iron, Banks best, and other good makes of English Rolled Iron, to arrive, suitable for Railroad Axles, etc., etc., equal in quality to American Rolled Iron. I have agency of several best makers in England and Wales, and can import for Railroad Companies, and others, on best terms, and at much less prices than they can be supplied from American Mills.
DAVID W. WETMORE,
218 Water street.
New York, Sept. 9, 1848. 3w*

JAMES LAURIE, *Civil Engineer.*
No. 23 RAILROAD EXCHANGE, BOSTON, MASS.

Railroad Routes Explored and Surveyed. Estimates, Plans and Specifications furnished for Dams, Bridges, Wharves, and all Engineering Structures.
October 14, 1848. 6m*

MASONS AND STONECUTTERS WANTED—AT THE U. S. NAVY YARD, NEAR PENSACOLA.—Twenty good Stonecutters can find immediate employment at dressing granite by the superficial foot. The *beds* and *builds* of the stone will alone be dressed—the face being left rough. For this work the high price of 25 cents per superficial foot will be allowed on the stone now in the yard, and the tools sharpened.

Those who are Masons as well as Stonecutters, will be preferred: and, more especially, those who are disposed to work, when necessary, in Diving Bells. The works in progress are very extensive, and will, probably, afford constant employment for some years.

To good workmen, of the above description, when employed by the day, the wages will be $2.50, on the ten hour system; to which, an addition at the rate of one dollar per day will be made for such time as they may be employed in the Diving Bells. Or at the rate of $3.50 per day.

The Diving Bells, and Machinery, are constructed on the most approved plans, and will be abundantly supplied with air and light, and the water kept low in the Bells, so that no inconvenience will be felt by the workmen, the depth being only from 25 to 30 feet.

Two good MACHINISTS can also find employment in the Navy Yard. Apply in person, to
JAMES HERRON,
Civil Engineer, Navy Yard.
Jan. 1. 10t

RAILROAD IRON.

THE TRENTON IRON COMPANY ARE now turning out one thousand tons of rails per month, at their works at Trenton, N. J. They are prepared to enter into contract to furnish rails of any pattern, and of the very best quality, made exclusively from the famous Andover iron. The position of the works, on the Delaware river, the Delaware and Raritan canal, and the Camden and Amboy railroad, enables them to ship rails at all seasons of the year. Apply to
COOPER & HEWITT, Agents,
17 Burling Slip, New York.
October 30th, 1848.

MANUFACTURE OF PATENT WIRE Rope and Cables for Inclined Planes, Standing Ship Rigging, Mines, Cranes, Tillers etc., by
JOHN A. ROEBLING, *Civil Engineer*,
Pittsburgh, Pa.

These Ropes are in successful operation on the planes of the Portage Railroad in Pennsylvania, on the Public Slips, on Ferries and in Mines. The first rope put upon Plane No. 3, Portage Railrord, has now run 4 seasons, and is still in good condition. 92v1 1y

NORWICH CAR FACTORY,
NORWICH, CONNECTICUT.

AT the head of navigation on the River *Thames*, and on the line of the *Norwich and Worcester Railroad*, established for the manufactory of
RAILROAD CARS,
OF EVERY DESCRIPTION, VIZ:
PASSENGER, FREIGHT AND HAND CARS,
ALSO, VARIOUS KINDS OF
ENGINE TENDERS AND SNOW PLOUGHS.
TRUCKS, WHEELS & AXLES
Furnished and fitted at short notice.
Orders executed with promptness and despatch.
☞ Any communication addressed to
JAMES D. MOWRY,
General Agent,
Norwich, Conn.,
Will meet with immediate attention. 1y8

RIDER'S PATENT IRON BRIDGE.

THE RIDER IRON BRIDGE having now been fully tested on the Harlem Railroad, by constant use for about eighteen months, and found to answer the full expectations of its most sanguine friends, is now offered to the public with the utmost confidence as to its great utility over any other Bridge now known.

The plan of this Bridge is to use the iron so as to obtain its greatest longitudinal strength, and at the same time is so arranged as to secure the combined principles of the *Arch*, *Suspension* and *Triangle*, all under such controlling power as causes each to act in the most perfect and secure manner, and at the same time impart its greatest strength to the whole work.

THE RIDER IRON BRIDGE COMPANY are prepared to furnish large quantities of Iron Bridging for Rail Road or other purposes, made under the above Patent, at short notice, and at prices far *more economical* than the best wood structure, and on *certain conditions*, the first cost may be made the same as wood.

Models, and pamphlets giving full descriptions of the RIDER BRIDGE, with certificates based on actual trial from undoubted sources, will be found at the office of the Company, 74 BROADWAY, *up stairs*, or of W. RIDER & BROTHERS, 58 *Liberty Street*, where terms of contract will be made known, and where orders are solicited.
M. M. WHITE,
November 25, 1848. Agent for the Company.

LAP—WELDED
WROUGHT IRON TUBES
FOR
TUBULAR BOILERS,
FROM 1 1-2 TO 8 INCHES DIAMETER.

These Tubes are of the same quality and manufacture as those so extensively used in England, Scotland, France and Germany, for Locomotive, Marine and other Steam Engine Boilers.
THOMAS PROSSER,
Patentee.
28 Platt street, New York.

ENGINEERS' AND SURVEYERS'
INSTRUMENTS MADE BY
EDMUND DRAPER,
Surviving partner of
STANCLIFFE & DRAPER.

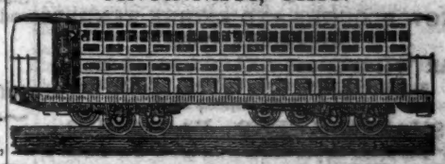
No 23 Pear street, near Third, below Walnut, Philadelphia.
1y10

RAILROAD SCALES.—THE ATTENtion of Railroad Companies is particularly requested to Ellicotts' Scales, made for weighing loaded cars in trains, or singly, they have been the inventors, and the first to make platform scales in the United States; supposing that an experience of 20 years has given a knowledge and superior advantage in the business.

The levers of our scales are made of wrought iron, all the bearers and fulcrums are made of the best cast steel, laid on blocks of granite, extending across the pit, the upper part of the scale only being made of wood. E. Ellicott has made the largest Railroad Scale in the world, its extreme length was one hundred and twenty feet, capable of weighing ten loaded cars at a single draft. It was put on the Mine Hill and Schuylkill Haven Railroad.

We are prepared to make scales of any size to weigh from five pounds to two hundred tons.
ELLICOTT & ABBOTT.
Factory, 9th street, near Coates, cor. Melon st.
Office, No. 3 North 5th street,
1y25 Philadelphia, Pa.

CAR MANUFACTORY,
CINCINNATI, OHIO.



KECK & DAVENPORT WOULD RESPECTFULLY call the attention of Railroad Companies in the West and South to their establishment at Cincinnati. Their facilities for manufacturing are extensive, and the means of transportation to different points speedy and economical. They are prepared to execute to order, on short notice, Eight-Wheeled Passenger Cars of the most superior description, Open and Covered Freight Cars, Four or Eight-Wheel Crank and Lever Hand Cars, Trucks, Wheels and Axles, and Railroad Work generally.
Cincinnati, Ohio, October 2, 1848. 41tf

RAILROAD IRON.

THE MOUNT SAVAGE IRON WORKS, Allegheny County, Maryland, having recently passed into the hands of new proprietors, are now prepared, with increased facilities, to execute orders for any of the various patterns of Railroad Iron.—Communications addressed to either of the subscribers will have prompt attention.
J. F. WINSLOW, President
Mount Savage Iron Co., Troy, N. Y.
ERASTUS CORNING, Albany.
WARREN DELANO, Jr., N. Y.
JOHN M. FORBES, Boston.
ENOCH PRATT, Baltimore, Md
November 6, 1848.

THE NEWCASTLE MANUFACTURING Company continue to furnish at the Works, situated in the town of Newcastle, Del., Locomotive and other steam engines, Jack screws, Wrought iron work and Brass and Iron castings, of all kinds connected with Steamboats, Railroads, etc.; Mill Gearing of every description; Cast wheels (chilled) of any pattern and size, with Axles fitted, also with wrought tires, Springs, Boxes and bolts for Cars; Driving and other wheels for Locomotives.

The works being on an extensive scale, all orders will be executed with promptness and despatch. Communications addressed to Mr. William H. Dobbs, Superintendent, will meet with immediate attention. ANDREW C. GRAY,
a45 President of the Newcastle Manuf. Co.

TO RAILROAD COMPANIES AND MANufacturers of railroad Machinery. The subscribers have for sale Am. and English bar iron, of al. sizes; English blister, cast, shear and spring steel; Juniata rods; car axles, made of double refined iron; sheet and boiler iron, cut to pattern; tiers for locomotive engines, and other railroad carriage wheels, made from common and double refined B. O. iron; the latter a very superior article. The tires are made by Messrs. Baldwin & Whitney, locomotive engine manufacturers of this city. Orders addressed to them, or to us, will be promptly executed.

When the exact diameter of the wheel is stated in the order, a fit to those wheels is guaranteed, saving to the purchaser the expense of turning them out inside. THOMAS & EDMUND GEORGE,
a45 N. E. cor. 12th and Market sts., Philad., Pa.

JAMES HERRON, *Civil Engineer,*
OF THE UNITED STATES NAVY YARD,
PENSACOLA, FLORIDA.,
PATENTEE OF THE
HERRON RAILWAY TRACK.

MODELS of this Track, on the most improved plans, may be seen at the Engineer's Office of the New York and Erie Railroad.

DEAN, PACKARD & MILLS,
MANUFACTURERS OF ALL KINDS OF
RAILROAD CARS,
SUCH AS
PASSENGER, FREIGHT AND CRANK CARS,
— ALSO —
SNOW PLOUGHS AND ENGINE TENDERS
OF VARIOUS KINDS.

CAR WHEELS and AXLES fitted and furnished at short notice; also, STEEL SPRINGS of various kinds; and
SHAFTING FOR FACTORIES.

☞ *The above may be had at order at our Car Factory,*
REUEL DEAN, ELIJAH PACKARD, ISAAC MILLS, } SPRINGFIELD, MASS.
1y48

TO CONTRACTORS.

OFFICE NASHVILLE & CHATTANOOGA R.R. Co.
Nashville, 9th November, 1848.

PROPOSALS WILL BE RECEIVED AT this office on 20th December next, for the Graduation and Masonry of forty miles of road, viz: twenty miles next to Nashville, ten miles crossing the Barren fork of Duck river in Bedford county, Tennessee, and ten miles on the northwest side of Tennesee river, in Jackson county, Alabama.

Profiles and plans may be seen at this office after 12th December. By order of the board.
C. F. M. GARNETT,
Chief Engineer.

N. B. Twenty-five miles of road (including the Tunnel,) and six miles heavy mountain work are under contract. Seven Hundred Laborers are wanted by the Contractors. t*48

☞ NOTICE. ☜

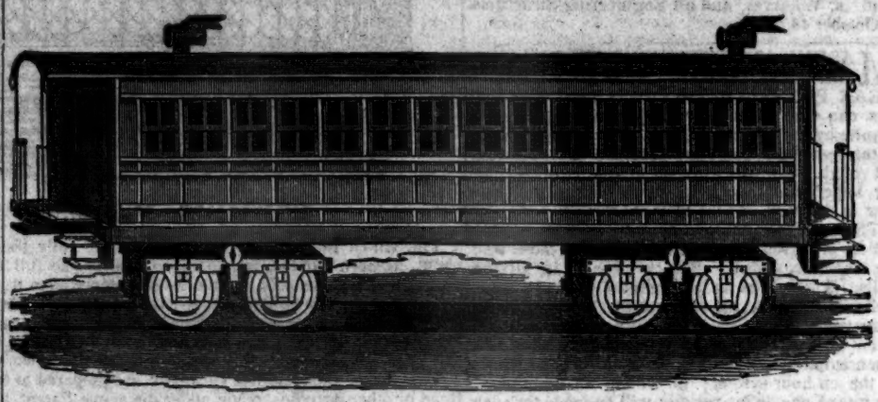
RAILROAD LINE BETWEEN ALBANY AND BUFFALO, N. Y.

1848.—SCHEDULE FOR RUNNING.—1848.

Going west.		1st train.	2d train.	3d train
Leaves....	Albany....	7½ A.M..	2 P.M..	7 P.M.
Pass.....	Utica.....	1 P.M..	7½ P.M..	1½ A.M.
Pass.....	Syracuse...	4½ P.M.	11 P.M..	5 A.M.
Pass.....	Auburn....	6½ P.M..	1 A.M..	7 A.M.
Pass.....	Rochester.	12½ M.N..	7 A.M..	1 P.M.
Arrives at.	Buffalo....	5½ A.M.	12 M.....	6 P.M.
Going east.		1st train.	2d train.	3d train.
Leaves....	Buffalo....	7½ A.M..	2 P.M..	7 P.M.
Pass.....	Rochester.	12½ M....	7 P.M.	12 M.N.
Pass.....	Auburn....	6½ P.M..	1 A.M..	6 A.M.
Pass.....	Syracuse...	8½ P.M..	3½ A.M..	8 A.M.
Pass.....	Utica.....	12 M.N..	7 A.M.	11½ A.M.
Arrives at.	Albany.....	5 A.M.	12 M....	4½ P.M.

Adopted February 18, 1848, in convention at Albany. (Copy.) T. Y. HOWE, JR.,
Secretary of the Convention.

DAVENPORT & BRIDGES'
CAR WORKS, CAMBRIDGEPORT, MASS.



Manufacture to Order, Passenger and Freight Cars of every description, and of the most improved pattern; also furnish Snow Ploughs and Chilled Wheels of any pattern and size. Forged Axles, Springs, Boxes and Bolts for Cars at the lowest prices.

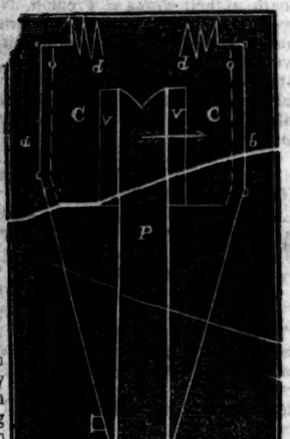
All orders punctually executed and forwarded to any part of the country.

Our Works are within fifteen minutes ride from State street, Boston—Omnibuses pass every fifteen minutes. 10tf

THE SUBSCRIBERS ARE PREPARED TO execute orders at their Phœnix Works for Railroad Iron of any required pattern, equal in quality and finish to the best imported.
REEVES, BUCK & CO.,
Philadelphia.
ROBERT NICHOLS, Agent,
26tf No 79 Water St., New York.

RAILROAD IRON, PIG IRON, ETC.
600 Tons of T Rail 60 lbs. per yard.
25 Tons of 2½ by ½ Flat Bars.
25 Tons of 2½ by 9-16 Flat Bars.
100 Tons No. 1 Gartshrorie.
100 Tons Welsh Forge Pigs.
For Sale by A. & G. RALSTON & CO.
No. 4 So. Front St., *Philadelphia*

FRENCH AND BAIRD'S PATENT SPARK ARRESTER.



TO THOSE INTERESTED IN Railroads, Railroad Directors and Managers are respectfully invited to examine an improved Spark-Arrester recently patented by the undersigned.

Our improved Spark Arresters have been extensively used during the last year on both passenger & freight engines, and have been brought to such a state of perfection that no annoyance from sparks or dust from the chimney of engines on which they are used is experienced.

These Arresters are constructed on an entirely different principle from any heretofore offered to the public The form is such that a rotary motion is imparted to the heated air smoke and sparks passing through the chimney, and by the centrifugal force thus acquired by the sparks and dust they are separated from the smoke and steam, and thrown into an outer chamber of the chimney through openings near its top, from whence they fall by their own gravity to the bottom of this chamber; the smoke and steam passing off at the top of the chimney, through a capacious and unobstructed passage, thus arresting the sparks without impairing the power of the engine by diminishing the draught or activity of the fire in the furnace.

These chimneys and arresters are simple, durable and neat in appearance. They are now in use on the following roads, to the managers and other officers of which we are at liberty to refer those who may desire to purchase or obtain further information in regard to their merits

R. L. Stevens, President Camden and Amboy Railroad Company; Richard Peters, Superintendant Georgia Railroad, Augusta, Ga.; G. A. Nicolls, Superintendant Philadelphia, Reading and Pottsville Railroad, Reading, Pa.; W. E. Morris, President Philadelphia, Germantown and Norristown Railroad Company, Philadelphia; E. B. Dudley, President W. and R. Railroad Company, Wilmington, N. C.; Col. James Gadsden, President S. C. and C. Railroad Company, Charleston, S. C.; W. C. Walker, Agent Vicksburgh and Jackson Railroad, Vicksburgh, Miss.; R. S. Van Rensselaer, Engineer and Sup't Hartford and New Haven Railroad; W. R. M'Kee, Sup't Lexington and Ohio Railroad, Lexington, Ky.; T. L. Smith, Sup't New Jersey Railroad Trans. Co.; J. Elliott, Sup't Motive Power Philadelphia and Wilmington Railroad, Wilmington, Del.; J. O. Sterns, Sup't Elizabethtown and Somerville Railroad; R. R. Cuyler, President Central Railroad Company, Savannah, Ga.; J. D. Gray, Sup't Macon Railroad, Macon, Ga.; J. H. Cleveland, Sup't Southern Railroad, Monroe, Mich.; M. F. Chittenden, Sup't M. P. Central Railroad, Detroit, Mich; G. B. Fisk, President Long Island Railroad, Brooklyn.

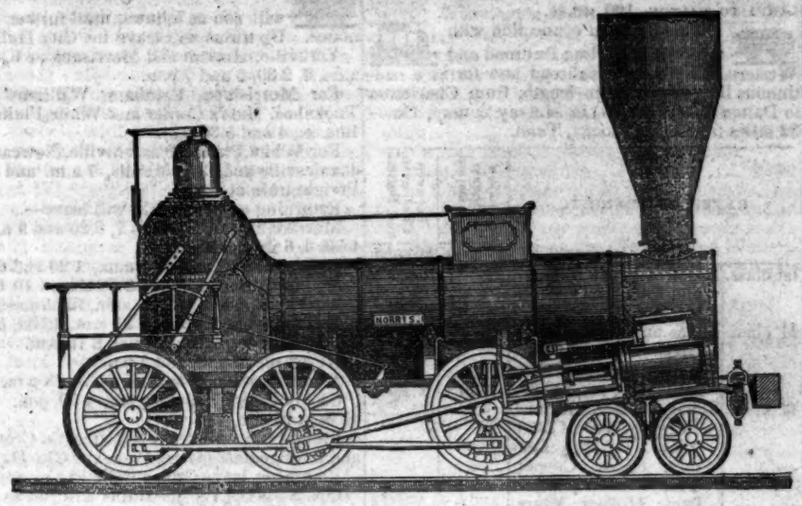
Orders for these Chimneys and Arresters, addressed to the subscribers, care Messrs. Baldwin & Whitney, of this city, will be promptly executed. FRENCH & BAIRD.

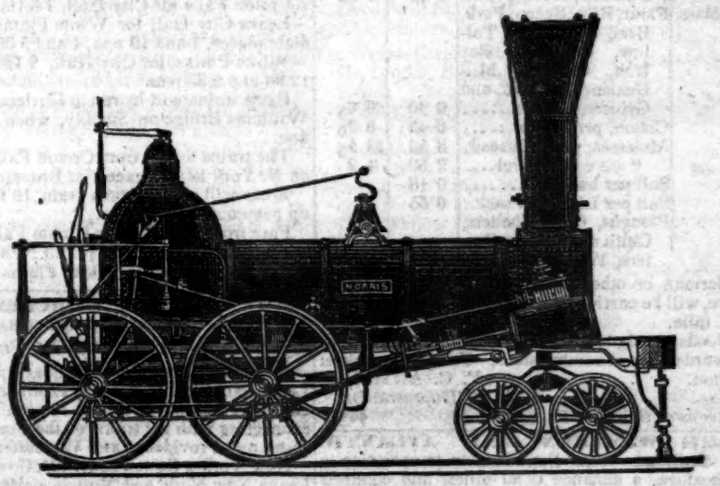
N. B.—The subscribers will dispose of single rights, or rights for one or more States, on reasonable terms.
Philadelphia, Pa., April 6, 1844.

*** The letters in the figures refer to the article given in the *Journal* of June, 1844. ja15

NORRIS' LOCOMOTIVE WORKS.

BUSHHILL, SCHUYLKILL SIXTH-ST., PHILADELPHIA,





THE UNDERSIGNED Manufacture to order Locomotive Steam Engines of any plan or size.

Their shops being enlarged, and their arrangements considerably extended to facilitate the speedy execution of work in this branch, they can offer to Railway Companies unusual advantages for prompt delivery of Machinery of superior workmanship and finish.

Connected with the Locomotive business, they are also prepared to furnish, at short notice, Chilled Wheels for Cars of superior quality.

Iron and Brass castings, Axles, etc., fitted up complete with Trucks or otherwise.

NORRIS' BROTHERS.

MACHINE WORKS OF ROGERS, Ketchum & Grosvenor, Patterson, N. J. The undersigned receive orders for the following articles, manufactured by them of the most superior description in every particular. Their works being extensive and the number of hands employed beinglarge, they are enabled to execute both large and small orders with promptness and despatch.

Railroad Work.

Locomotive steam engines and tenders; Driving and other locomotive wheels, axles, springs & flange tires; car wheels of cast iron, from a variety of patterns, and chills; car wheels of cast iron with wrought tires; axles of best American refined iron; springs; boxes and bolts for cars.

Cotton, Wool and Flax Machinery

of all descriptions and of the most improved patterns, style and workmanship.

Mill gearing and Millwright work generally; hydraulic and other presses; press screws; callenders; lathes and tools of all kinds; iron and brass castings of all descriptions.

ROGERS, KETCHUM & GROSVENOR,
Paterson, N. J., or 60 Wall street, N. York.

T. & C. WASON, Manufacturers of every style of Freight and Baggage Cars.—Forty rods east of the depot, Springfield, Mass.

Running parts in sets complete, Wheels, Axles, or any part of cars furnished and fitted up at short notice and in the best manner.

N.B. Particular attention paid to the manufacture of the *most improved* Freight Cars. We refer to the New Haven, Hartford and Springfield; Connecticut River; Harlem; Housatonic, and Western, Mass., Railroads, where our cars are now in constant use.

Dec.25, 1847.—1y.

RAILROAD IRON.

3000 TONS, ABOUT 60 LBS. PR lineal yard—deliverable early in the Spring, and of undoubted quality, can be contracted for at a low rate. For sale by

DAVIS, BROOKS & CO.,
68 Broad street.

New York, Sept. 16. 1848, 39tf

Also on hand—**1000** Tons best quality Rails.

CHILLED RAILROAD WHEELS.—THE undersigned are now prepared to manufacture their Improved Corrugated Car Wheels, or Wheels with any form of Spokes or Disks, by a new process which prevents all strain on the metal, such as is is produced in all other chilled wheels, by the manner of casting and cooling. By this new method of manufacture, the hubs of all kinds of wheels may be made whole—that is, without dividing them into sections—thus rendering the expense of banding unnecessary; and the wheels subjected to this process will be much stronger than those of the same size and weight, when made in the ordinary way.

A. WHITNEY & SON,
Willow St. below 13th,
Nov. 10, 1847. [tf.] Philadelphia, Penna.

THE SUBSCRIber has on hand a good assortment of his best Leveling and Surveying Instruments, among them his improved Compass for taking angles without the needle—also Bells, suitable for Churches, Railroad Depots, etc. ANDREW MENEELY.

West Troy, May 12, 1847. 1y•21

PATENT RAILROAD, SHIP AND BOAT Spikes. The Troy Iron and Nail Factory keeps constantly for sale a very extensive assortment of Wrought Spikes and Nails, from 3 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years' successful operation, and now almost universal use in the United States (as well as England, where the subscriber obtained a patent) are found superior to any ever offered in market.

Railroad companies may be supplied with Spikes having countersink heads suitable to holes in iron rails, to any amount and on short notice. Almost all the railroads now in progress in the United States are fastened with Spikes made at the above named factory—for which purpose they are found invaluable, as their adhesion is more than double any common spikes made by the hammer.

All orders directed to the Agent, Troy, N. York will be punctually attended to.

HENRY BURDEN, *Agent*

Spikes are kept for sale, at Factory Prices, by & J. Townsend, Albany, and the principal Iron merchants in Albany and Troy; J. I. Brower, 222 Water St., New York; A. M. Jones, Philadelphia; T. Jarviers, Baltimore; Degrand & Smith, Boston.

*** Railroad Companies would do well to forward their orders as early as practicable, as the subscriber is desirous of extending the manufcturing so as to keep pace with the daily increasing demand.

ja45

TWO LOCOMOTIVE AND MARINE ENgine Boiler Builders. Pascal Iron Works, Philadelphia. Welded Wrought Iron Flues, suitable for Locomotives, Marine and other Steam Engine Boilers, from 2 to 5 inches in diameter. Also, Pipes for Gas, Steam and other purposes; extra strong Tube for Hydraulic Presses; Hollow Pistons for Pumps of Steam Engines, etc. Manufactured and for sale by

MORRIS TASKER & MORRIS,
Warehouse S. E. corner 3d and Walnut Sts., Philadelphia. 1t

CHILLED RAILROAD WHEELS.—THE undersigned, the *Original Inventor* of the *Plate Wheel* with solid hub, is prepared to execute all orders for the same, promptly and faithfully, and solicits a share of the patronage for those kind of wheels which are now so much preferred, and which he originally produced after a large expenditure of time and money.

A. TIERS.
Point Pleasant Foundry,

He also offers to furnish Rolling Mill Castings, and other Mill Gearing, with promptness, having, he believes, the largest stock of such patterns to be found in the country.

A. T

Kensington, Philadelphia Co., }
March 12, 1848. } 11tf

TO RAILROAD COMPANIES AND BUILDERS OF MARINE AND LOCOMOTIVE ENGINES AND BOILERS.

PASCAL IRON WORKS.

WELDED WROUGHT IRON TUBES

From 4 inches to ¼ in calibre and 2 to 12 feet long, capable of sustaining pressure from 400 to 2500 lbs. per square inch, with Stop Cocks, T's, L's, and other fixtures to suit, fitting together, with screw joints, suitable for STEAM, WATER, GAS, and for LOCOMOTIVE and other STEAM BOILER FLUES.

Manufactured and for sale by
MORRIS, TASKER & MORRIS.
Warehouse S. E. Corner of Third & Walnut Streets,
PHILADELPHIA.

LAWRENCE'S ROSENDALE HYDRAulic Cement. This cement is warranted equal to any manufactured in this country, and has been pronounced superior to Francis' "Roman." Its value for Aqueducts, Locks, Bridges, Flooms and all Masonry exposed to dampness, is well known, as it sets immediately under water, and increases in solidity for years.

For sale in lots to suit purchasers, in tight papered barrels, by JOHN W. LAWRENCE,
142 Front street, New York.

☞ Orders for the above will be received and promptly attended to at this office. 32 1y

LOCOMOTIVES FOR SALE.

FOR SALE—Three Locomotive Engines and Tenders, in good running order. Apply to
JOHN WILKINSON,
President of the Syracuse & Utica R. R.
Syracuse, New York.
December 16, 1848. 4t50

BOSTON AND PROVIDENCE RAILroad. On and after Monday, October 2d, the Trains will run as follows:

Steamboat Train—Leaves Boston at 5 p.m.—Leaves Providence, on the arrival of the train from Stonington.

Accommodation Trains—Leave Boston at 8 a.m. and 3½ p.m. Leave Providence at 8½ a.m. and 3½ p.m.

Dedham Trains—Leave Boston at 9 a.m., 12 m., 3, 6, and 10½ p.m. Leave Dedham at 7½ 10½ a.m., 1½, 4½, and 9 p.m.

Stoughton Trains—Leave Boston at 11½ a.m. and 4½ p.m. Leave Stoughton at 8½ a.m. and 2½ p.m.

Freight Trains—Leave Boston at 11 a.m. and 6 p.m. Leave Providence at 4 a.m, and 7 40 a.m.

On and after Wednesday, Nov. 1, the DEDHAM TRAIN will run as follows: Leave Boston at 9 a.m., 12 m., 3, 5½ and 10½ p.m. Leave Dedham at 8 10½, a.m., 1½, 4½ and 9 p.m.

WM. RAYMOND LEE, *Sup't.*

PHILADELPHIA, WILMINGTON & BALTIMORE RAILROAD.—1848.
WINTER ARRANGEMENT.
December 4th.—Fare $4.

Leave Philadelphia 8 a.m. and 4 p.m.
Leave Baltimore 9 a.m and 8 p.m.
Sunday—Philadelphia only at 4 p.m.
" Baltimore only at 8 p.m.

Trains stop at way stations. A second class car run with morning line only.

CHARLESTON, S. C.

Through tickets Philadelphia to Charleston, $20.

Connecting lines to Charleston leave Philadelphia at 4 p.m. daily—leave Baltimore at 11½ p.m. daily

PITTSBURG AND WHEELING.

Through ticket, Philadelphia to Pittsburg, $12.
" " Wheeling, 13.
All through tickets only sold at office, Philad.

WILMINGTON ACCOMMODATION.

Leaves Philadelphia at 1½ and 4 p.m.
Leaves Wilmington at 8 a.m. and 4 p.m.
N.B.—Extra baggage charged for.
I. R. TRIMBLE, Gen. Supt.

GEORGIA RAILROAD. FROM AUGUSTA to ATLANTA—171 MILES. AND WESTERN AND ATLANTIC RAILROAD FROM ATLANTA TO DALTON, 100 MILES.

This Road in connection with the South Carolina Railroad and Western and Atlantic Railroad now forms a continuous line, 408 miles in length, from Charleston to Dalton (Cross Plains) in Murray county, Ga.—32 miles from Chattanooga, Tenn.

	RATES OF FREIGHT.	Between Augusta and Dalton. 271 miles.	Between Charleston, and Dalton. 408 miles.
1st class.	Boxes of Hats, Bonnets, and Furnature, per cubic foot.....	$0 18	$0 28
2d class.	Boxes and Bales of Dry Goods, Sadlery, Glass, Paints, Drugs and Confectionary, per 100 lbs.	1 00	1 50
3d class.	Sugar, Coffee, Liquor, Bagging, Rope, Cotton Yarns, Tobacco, Leather, Hides, Copper, Tin, Feathers, Sheet Iron, Hollow Ware, Castings, Crockery, etc.	0 60	0 85
4th class.	Flour, Rice, Bacon, Pork, Beef, Fish, Lard, Tallow, Beeswax, Bar Iron, Ginseng, Mill Gearing, Pig Iron, and Grindstones, etc.....	0 40	0 65
	Cotton, per 100 lbs.....	0 45	0 70
	Molasses, per hogshead.	8 50	13 50
	" " barrel....	2 50	4 2
	Salt per bushel.....	0 18	
	Salt per Liverpool sack..	0 65	
	Ploughs, Corn Shellers, Cultivators, Straw Cutters, Wheelbarrows...	0 75	1 50

German or other emigrants, in lots of 25 or more, will be carried over the above roads at 2 cents per mile.

Goods consigned to S. C. Railroad Co. will be forwarded free of commissions. Freight payable at Dalton.

F. C. ARMS,
Sup't. of Transportation.
Augusta, Ga., July 15, 1847. 44*1y

THE WESTERN AND ATLANTIC Railroad.—This Road is now in operation to Oothcaloga, a distance of 80 miles, and connects daily (Sundays excepted) with the Georgia Rail road.

From Kingston, on this road, there is a tri-weekly line of stages, which leave on the arrival of the cars on Tuesday, Thursday and Saturday, for Warrenton, Huntsville, Decatur and Tuscumbia, Alabama, and Memphis, Tennessee.

On the same days, the stages leave Oothcaloga for Chattanooga, Jasper, Murfreesborough, Knoxville and Nashville, Tennessee.

This is the most expeditious route from the east to any of these places.

CHAS. F. M. GARNETT,
Chief Engineer.
Atlanta, Georgia, April 16th, 1846 1y1

CENTRAL RAILROAD—FROM SAVANnah to Macon. Distance 190 miles.

This Road is open for the transportation of Passengers and Freight. Rates of Passage, $8 00. Freight—

On weight goods generally... 50 cts. per hundred.
On measurement goods ..... 13 cts. per cubic ft.
On brls. wet (except molasses and oil).....$1 50 per barrel.
On brls. dry (except lime)... 80 cts. per barrel.
On iron in pigs or bars, castings for mills, and unboxed machinery..... 40 cts. per hundred
On hhds. and pipes of liquor, not over 120 gallons.....$5 00 per hhd.
On molasses and oil.....$6 00 per hhd.

Goods addressed to F. WINTER, Agent, forwarded free of commission. THOMAS PURSE,
y40 Gen'l. Sup't. Transportation

NEW YORK & HARLEM RAILROAD CO.—Summer Arrangement.—On and after Tuesday, June 1st, 1847, the cars will run as follows, until further notice. Up trains will leave the City Hall for—

Yorkville, Harlem and Morrisana at 6, 8 and 11 a.m., 2, 2 30, 5 and 7 p.m.

For Morrisiana, Fordham, Williams' Bridge, Tuckahoe, Hart's Corner and White Plains, 7 and 10 a.m., 4 and 5 30 p.m.

For White Plains, Pleasantville, Newcastle, Mechanicsville and Croton Falls, 7 a.m. and 4 p.m. Freight train at 1 p.m.

Returning to New York, will leave—

Morrisiana and Harlem, 7, 8 20 and 9 a.m., 1, 3, 4 30, 6, 6 28 and 8 p.m.

Fordham, 8 08 and 9 15 a.m., 1 20 and 6 15 p.m.

Williams Bridge, 8 and 9 08 a.m., 1 10, 6 08 p.m.

Tuckahoe, 7 38 and 8 25 a.m., 12 55 and 5 52 p.m.

White Plains, 7 10 and 8 35 a.m., 12 50, 5 35 p.m.

Pleasantville, 8 15 a.m. and 5 15 p.m.

Newcastle, 8 a.m. and 5 p.m.

Mechanicsville, 7 48 a.m. and 4. 48 p.m.

Croton Falls, 7 30 a.m. and 4 30 p.m. Freight train at 10 a.m.

Freight train will leave 32d street for Croton Falls and intermediate places, 4 a.m and City Hall 1 p.m.

Returning, leave Croton Falls 10 a.m. and 9½ p.m.

ON SUNDAYS, the trains will run as follows:

Leave City Hall for Croton Falls, 7 a.m, 4 p.m.

Croton Falls for City Hall, 7 30 a.m., 4 30 p.m.

Leave City Hall for White Plains and intermediate places, 7 and 10 a.m. 4 and 5 30 p.m.

White Plains for City Hall, 7 10 and 8 35 a.m., 12 30 and 5 35 p.m.

Extra trains will be run to Harlem, Fordham and Williams Bridge on Sunday, when the weather is fine.

The trains to and from Croton Falls will not stop on N. York island, except at Broome st. and 32d st.

A car will preceed each train 10 minutes to take up passengers in the city.

Fare from New York to Croton Falls and Somers $1, to Mechanicsville 87½c., to Newcastle 75c., to Pleasantville 62½c. to White Plains 50c. 25tf

NORWICH AND WORCESTER RAILRoad. Winter Arrangement.—1848.

Accommodation Trains daily, (Sundays excepted.)

Leave Norwich, at 6 a. m., 12 m. and 2½ p. m.
Leave Worcester, at 6½ and 10 a. m., and 4½ p. m. connecting with the trains of the Boston and Worcester and Providence and Worcester railroads.

New York & Boston Line. Railroad & Steamers. Leave New York and Boston, daily, Sundays excepted, at 5 p.m.—At New York from pier No. 1 N. River.—At Boston from corner Lincoln and Beach streets, opposite United States Hotel. The steamboat train stops only at Framingham, Worcester, Danielsonville and Norwich.

Freight Trains leave Norwich and Worcester daily, Sundays excepted.—From Worcester at 6½ a. m., from Norwich at 7 a.m.

☞ *Fares are Less when paid for Tickets than when paid in the Cars.* ☜

32 1y S. H. P. LEE, Jr., Sup't.

BOSTON AND MAINE RAILROAD.

Winter Arrangement.
Commencing Nov. 13, 1848.

Trains leave Boston as follows, viz: For Portland at 7 A.M. and 2½ P.M.
Great Falls at 7 a.m., 2½ and 3½ p.m.
Haverhill at 7 and 11½ a.m., 2½, 3½ and 5 p.m.
Lawrence, at 7, 9, 11½ a.m., 2½, 3½, 5, 6 p.m.
Reading 7, 9 & 11½ a.m., 2½, 3½, 5, 6, 7½ & 10 p.m

Trains leave for Boston as follows, viz: From Portland at 7½ a.m., and 3 p.m.
Great Falls at 6½ and 9½ a.m., and 4½ p.m.
Haverhill at 7, 8½ and 11 a.m., 3 and 6½ p.m.
Lawrence at 6½, 7½, 8½, 11½ a.m., 12½, 3½, 6½, p.m.
Reading at 6½, 7, 7½, 9½, 11½ a.m., 1½, 3½, 7½, 9, p.m.

MEDFORD BRANCH TRAINS.

From Medford at 6½, 8, 10½, a.m., 2, 4, 6, 9 p.m.
From Boston at 7½, 9½ a.m., 12½ 2½, 5½, 6½, 10 p m.
The Depot in Boston is on Haymarket Square.
CHAS. MINOT, *Sup't.*
Boston, Nov. 7, 1848.

BALTIMORE AND OHIO RAILROAD. MAIN STEM. The Train carrying the Great Western Mail leaves Baltimore every morning at 7½ and Cumberland at 8 o'clock, passing Ellicott's Mills, Frederick, Harpers Ferry, Martinsburgh and Hancock, connecting daily each way with—the Washington Trains at the Relay House seven miles from Baltimore, with the Winchester Trains at Harpers Ferry — with the various railroad and steamboat lines between Baltimore and Philadelphia and with the lines of Post Coaches between Cumberland and Wheeling and the fine Steamboats on the Monongahela Slack Water between Brownsville and Pittsburgh. Time of arrival at both Cumberland and Baltimore 5½ P. M. Fare between those points $7, and 4 cents per mile for less distances. Fare through to Wheeling $11 and time about 36 hours, to Pittsburgh $10, and time about 32 hours. Through tickets from Philadelphia to Wheeling $13, to Pittsburgh $12. Extra train daily except Sundays from Baltimore to Frederick at 4 P. M., and from Frederick to Baltimore at 8 A. M.

WASHINGTON BRANCH.

Daily trains at 9 A. M. and 5 P. M. and 12 at night from Baltimore and at 6 A. M. and 5½ P. M from Washington, connecting daily with the lines North, South and West, at Baltimore, Washington and the Relay house. Fare $1 60 through between Baltimore and Washington, in either direction, 4 cents per mile for intermediate distances. s13y1

BALTIMORE AND SUSQUEHANNA Railroad.—Reduction of Fare. Morning and Afternoon Trains between Baltimore and York.—The Passenger trains run daily, except Sunday, as follows:

Leaves Baltimore at	9 a.m. and	3½ p.m.
Arrives at	9 a.m. and	6½ p.m.
Leaves York at	5 a.m. and	3 p.m.
Arrives at	12½ p.m. and	8 p.m.
Leaves York for Columbia at	1½ p.m. and	8 a.m.
Leaves Columbia for York at	8 a.m. and	2 p.m.

FARE.

Fare to York	$1 50
" Wrightsville	2 00
" Columbia	2 12½

Way points in proportion.

PITTSBURG, GETTYSBURG AND HARRISBURG.

Through tickets to Pittsburg via stage to Harrisburg	$9
Or via Lancaster by railroad	10
Through tickets to Harrisburg or Gettysburg	3

In connection with the afternoon train at 3½ o'clock, a horse car is run to Green Spring and Owing's Mill, arriving at the Mills at 5½ p.m. Returning, leaves Owing's Mills at 7 a.m.

D. C. H. BORDLEY, *Sup't.*
31 1y Ticket Office, 63 North st.

NEW YORK & PHILADELPHIA.

NEW JERSEY RAILROAD & TRANSPORTATION CO.—

6 O'CLOCK, A. M.

Accommodation Line from New York to Philadelphia, via Jersey City, New Brunswick, and Camden.

Fare for 1st class cars, $3; for 2d class, $2 50; children under 12 years, half price.

Leaving every morning, (Sundays excepted) at 6 o'clock, from foot of Courtlandt street, and passing through Newark, Elizabethtown, Rahway, New Brunswick, Kingston, Princeton, Trenton, Bordentown, Burlington and Camden, and arriving at Philadelphia at 11½ A. M.

Leave New York 6 o'clock A. M.; Newark, 6h. 30m.; Elizabethtown 6h. 40m.; Rahway, 7 A. M.

DAILY EXCURSION TO PHILADELPHIA.

Excursion Tickets will be furnished, entitling the passengers to return by the 4½ o'clock P. M. Mail Line the same day, or next morning by the 6 o'clock A. M. Mail Line, for FIVE DOLLARS.

RAILROAD IRON—2500 TONS HEAVY H Rail, now landing, and expected shortly to arrive, for sale on most favorable terms by

DAVIS BROOKS & CO.
July 19th, tf 68 Broad street, New York.

SOUTH CAROLINA RAILROAD.—A Passenger Train runs daily from Charleston, on the arrival of the boats from Wilmington, N. C., in connection with trains on the Georgia, and Western and Atlantic Railroads—and by stage lines and steamers connects with the Montgomery and West Point, and the Tuscumbia Railroad in N. Alabama.

Fare through from Charleston to Montgomery daily	$26 50
Fare through from Charleston to Huntsville, Decatur and Tuscumbia	22 00

The South Carolina Railroad Co. engage to receive merchandize consigned to their order, and to forward the same to any point on their road; and to the different stations on the Georgia and Western and Atlantic railroad; and to Montgomery, Ala., by the West Point and Montgomery Railroad.

f25 JOHN KING, Jr, *Agent.*

CENTRAL AND MACON AND WESTern Railroads, Ga.—These Roads with the Western and Atlantic Railroad of the State of Georgia, form a continuous line from Savannah to Oothcaloga, Ga., of 371 miles, viz:

	Miles.
Savannah to Macon—Central Railroad	190
Macon to Atlanta—Macon and Western	101
Atlanta to Oothcaloga—Western and Atlantic	80

Goods will be carried from Savannah to Atlanta and Oothcaloga, at the following rates, viz:

	To Atlanta.	To Oothcaloga.
On Weight Goods—Sugar, Coffee, Liquor, Bagging, Rope, Butter, Cheese, Tobacco, Leather, Hides, Cotton Yarns, Copper, Tin, Bar & Sheet Iron, Hollow Ware & Castings	$0 50	$0 75
Flour, Rice, Bacon in Casks or boxes, Pork, Beef, Fish, Lard, Tallow, Beeswax, Mill Gearing, Pig Iron and Grind Stones	0 50	0 62½
On Measurement Goods—Boxes of Hats, Bonnets and Furniture, per cubic foot	0 20	0 26
Boxes and Bales of Dry Goods, Saddlery, Glass, Paints, Drugs and Confectionary, per cubic foot	0 20	pr. 100lbs. 35
Crockery, per cubic foot	0 15	" " 35
Molasses and Oil, per hhd., (smaller casks in proportion).	9 00	12 50
Ploughs, (large,) Cultivators, Corn Shellers, and Straw Cutters, each	1 25	1 50
Ploughs, (small,) and Wheelbarrows	0 80	1 05
Salt, per Liverpool Sack	0 70	0 95

Passage—Savannah to Atlanta, $10; Children, under 12 years of age, half price, Savannah to Macon, $7.

☞ Goods consigned to the subscriber will be forwarded free of Commissions.

☞ Freight may be paid at Savannah, Atlanta or Oothcaloga.

F. WINTER, *Forwarding Agent, C. R. R.*
Savannah, Aug. 15th, 1846. 1y34

PHILADELPHIA AND READING RAILROAD.—Passenger Train Arrangement for 1848.

A Passenger Train will leave Philadelphia and Pottsville daily, except Sundays, at 9 o'clock A. M.

The Train from Philadelphia arrives at Reading at 12 18 M.

The Train from Pottsville arrives at Reading at 10 43 A. M.

Fares.	Miles.	No. 1.	No. 2.
Between Phila. and Pottsville,	92	$3·50 and	$3·00
" " Reading,	58	2·25 and	1·90
" Pottsville "	34	1·40 and	1·20

Five minutes allowed at Reading; and three at other way stations.

Passenger Depot in Philadelphia corner of Broad and Vine streets. 8tf

NEW YORK ANDERIE RAILROAD LINE. SUMMER ARRANGEMENT. For passengers, twice each way daily, (except Sunday,) leave New-York from the foot of Duane St. at 7 o'clock, A. M. and at 4 o'clock, P. M. by steamboat, for Piermont, thence by cars to Ramapo, Monroe, Chester, Goshen, Middletown, Otisville, and the intermediate stations.

The return trains for New York will leave Otisville at 6 30, A. M. and 4 15, P. M.; Middletown at 7 A. M. and 4 40, P. M.; Goshen at 7 22, A. M. and 5 3, P. M.; Chester at 7 35, A. M. and 5 18, P. M.

Fare between New York and Otisville, $1 50; way-fare in proportion.

FOR MILK—Leave Otisville at 5½ o'clock, morning and evening.

FOR FREIGHT—The barges "Samuel Marsh and "Henry Suydam, Jr." will leave New York (from the foot of Duane St.) at 5 o'clock, P. M. daily (except Sundays.)

No freight will be received in New York after 5 o'clock, P. M.

Freight for New York will be taken by the trains leaving Otisville at 10½ o'clock, A. M.; Middletown at 11½, A. M.; Goshen at 12½, P. M.; Chester at 1 o'clock, P. M., etc., etc.

For farther particulars, apply to J. F. CLARKSON, Agent, corner of Duane and West Sts., New York, or to S. S. POST, Superintendent Transportation, Piermont.

24tf H. C. SEYMOUR, Sup't.

LITTLE MIAMI RAILROAD COMPANY Fall and Winter Arrangement, 1847. On and after Monday, September 20th, until further notice, a Passenger train will run as follows:

Leave Cincinnati daily at 9 A. M., for Milford, Foster's Crossing, Deerfield, Morrow, Fort Ancient, Freeport, Waynesville, Spring Valley, Xenia, Yellow Springs, and Springfield. Returning, will leave Springfield at 4½ a.m. Upward train arrives at Springfield at 2½ p.m. Downward train arrives at Cincinnati at 10½ a.m.

Freight trains will run each way daily.

Messrs. Neil, Moore & Co. are running the following stage lines in connection with the road:

A daily line from Xenia to Columbus and Wheeling, carrying the great Eastern mail.

Daily lines from Springfield to Columbus, Zanesville and Wheeling. Also to Urbana and Bellefontaine.

A line of Hacks runs daily in connection with the train between Deerfield and Lebanon.

Passengers leaving for New York and Boston, arrive at Sandusky city via Urbana, Bellefontaine & the Mad River and Lake Erie railroad, in 27 hours, including several hours' sleep at Bellefontaine. To the same point via Columbus, Delaware, Mansfield and the Mansfield and Sandusky city railroad, is 32 hours. Distance from Cincinnati to Springfield by railroad 84 miles.

From Springfield to Bellefontaine by stage, over a good Summer road	32 "
From Bellefontaine to Sandusky city by railroad	102 "

FARE—From Cincinnati to Lebanon	$1 00
" " " Xenia	1 50
" " " Springfield	2 00
" " " Columbus	4 00
" " " Sandusky city	7 00

The Passenger trains runs in connection with Strader & Gorman's line of Mail Packets to Louisville.

Tickets can be procured at the Broadway Hotel, Dennison House, or at the Depot of the Company on East Front street.

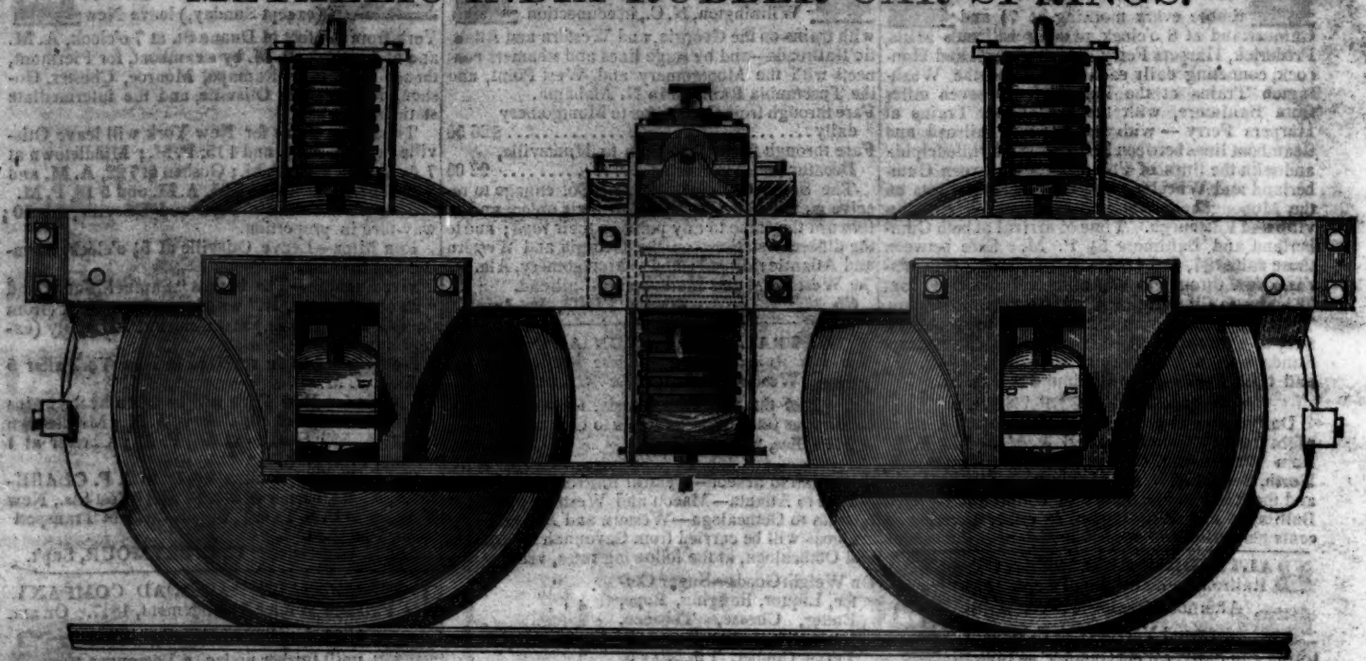
Further information and through tickets for the Stage lines, may be procured at P. Campbell, Agent on Front street, near Broadway.

The company will not be responsible for baggage beyond 50 dollars in value, unless the same is returned to the conductor or agent, and freight paid at of a passage for every $500 in value over that amount.

47tf W. H. CLEMENT, *Sup't.*

FOWLER M. RAY'S

METALLIC INDIA RUBBER CAR SPRINGS.



THE NEW ENGLAND CAR COMPANY have introduced these Springs, and they are now in operation on every Railroad terminating in Boston and several others in New England and the Middle States. Their qualities are well understood, or may be readily ascertained by every person interested to know them. They require no recommendation from the Company. The only known compound of India Rubber good for anything for this purpose is the Vulcanized India Rubber, invented by Charles Goodyear, of New Haven, and the application of it, and the form in which it is used, were invented by F. M. Ray, of New York. The right to manufacture and sell the substance itself for the purpose of Railroad Carriage Springs, as well as the form and application of it, are held exclusively by the New England Car Company. No other company, or individual, has any right to sell or use it for such purpose, or has attempted so to use it in this country.

The New England Car Company guarantee the right to use the articles they sell for Railroad Carriage Springs only against all adverse rights, whether under patents or otherwise: and all persons and corporations are cautioned against a similar use of the article, when purchased of any other parties.

The Springs they sell are all manufactured in a uniform manner, and under the immediate inspection of their own Agent, and have been proved and known to answer the purpose. None have been manufactured in this country, or imported from abroad, beside their own, which would at all answer the purpose; and if any such should be produced, it cannot be used for Car Springs, while Goodyear's patents, and the rights of the New England Car Company under them, remain in force.

The New England Car Company are now prepared to answer orders for all that may be called for, on reasonable notice, and uniform and equitable terms. They invite the most careful examination, and the severest scrutiny, into the merits of their Springs, wherever they have applied them. And if after such examination, your Company should judge it for their interest to adopt them, the N. E. Car Company would respectfully invite the patronage which they think they deserve, and are confident of receiving at your hands.

EDWARD CRANE, *Agent*,
Office 99 State street.

Orders may also be left with WM. RIDER & BROTHERS, No. 52 Liberty street, New York, or with F. M. RAY, *Agent*,
100 Broadway, N. Y.

The following article, from the pen of Mr. HALE, the president of the Boston and Worcester Railroad, expresses his opinion of this important improvement, as published in the Boston Daily Advertiser of June 7 1848. He says:

"Of the numerous uses to which the wonderful elasticity and durability of India Rubber renders this material applicable, we are hardly aware of one in which it has been more successful than in framing springs for railroad cars. We had occasion to observe, for some months past, its application to this use, on one of the passenger cars on the New on special train of the Boston and Worcester railroad. It is there used not only for the springs on which the car rests but to the springs attached to the draw bar at each end of the car, to prevent any jar on the sudden advancement or interruption of the motion of the car. For both these purposes it appears to be admirably adapted, and we do not learn, that during the period in which it has been used, any defect in it has been discovered. It renders the movements of the car extremely easy, and protects it more effectually, we think, than any other spring which we have ever seen in use, from every harsh or unpleasant motion, either vertical or horizontal. It is simple in its form and application, extremely light, and little liable to get out of repair. During the period of some months, in which we have seen the springs in operation, there is no apparent wear or diminution of their efficacy."

The above statement of Mr. Hale agrees with my own observation in all particulars.

WM. PARKER, Supt. B. & W. R. R.
June 8, 1848.

I fully concur in the foregoing statement, from practical observation of its use for the last 5 months, on the Boston and Worcester railroad corporation cars.

D. N. PICKERING, Jr.,
Supt. Car Building, B. & W. R. R.
Boston, June 10, 1848.

The New England Car Company have introduced their Vulcanized India Rubber Car Springs on the roads with which we are respectively connected, and we fully concur with Mr. Hale in the above opinion of their character and properties.

DAVENPORT & BRIDGES, Car Builders.
BRADLEY & RICE, Car Builders.
Boston, June, 1848.

PIG AND BLOOM IRON.—THE SUBSCRIBERS are agents for the sale of numerous brands of Charcoal and Anthracite Pig Iron, suitable for Machinery, Railroad Wheels, Chains, Hollowware, etc. Also several brands of the best Puddling Iron, Juniatta Blooms suitable for Wire, Boiler Plate, Axe Iron, Shovels, etc. The attention of those engaged in the manufacture of Iron is solicited by

A. WRIGHT & NEPHEW,
12tf Vine St. Wharf, Philadelphia.

BACK VOLUMES OF THE RAILROAD JOURNAL for sale at the office, No. 98 Nassau street.

LAP-WELDED WROUGHT IRON TUBES for Tubular Boilers, from 1¼ to 15 inches diameter, and any length not exceeding 17 feet—manufactured by the Caledonian Tube Company, Glasgow, and for sale by

IRVING VAN WART,
12 Platt street, New York.
JOB CUTLER, Patentee.

These Tubes are extensively used by the British Government, and by the principal Engineers and Steam Marine and Railway Companies in the Kingdom. 28tf

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AMERICAN RAILROAD JOURNAL,
OFFICE AT No. 98 NASSAU STREET,
(Opposite the Herald Buildings,)
NEW YORK.

This is the only periodical having a general circulation throughout the Union, in which all matters connected with public works can be brought to the notice of all persons in any way interested in these undertakings. Hence it offers peculiar advantages for advertising times of departure, rates of fare and freight, improvements in machinery, materials, as iron, timber, stone, cement, etc. It is also the best medium for advertising contracts, and placing the merits of new undertakings fairly before the public.

TERMS.—Five Dollars a year, *in advance*.

RATES OF ADVERTISING.

One page per annum	$125 00
One column "	50 00
One square "	15 00
One page per month	20 00
One column "	8 00
One square "	2 50
One page, single insertion	8 00
One columnn " "	3 00
One square " "	1 00
Professional notices per annum	5

☞ LETTERS and COMMUNICATIONS for this Journal may be directed to the *Editor*,

D. K. MINOR.